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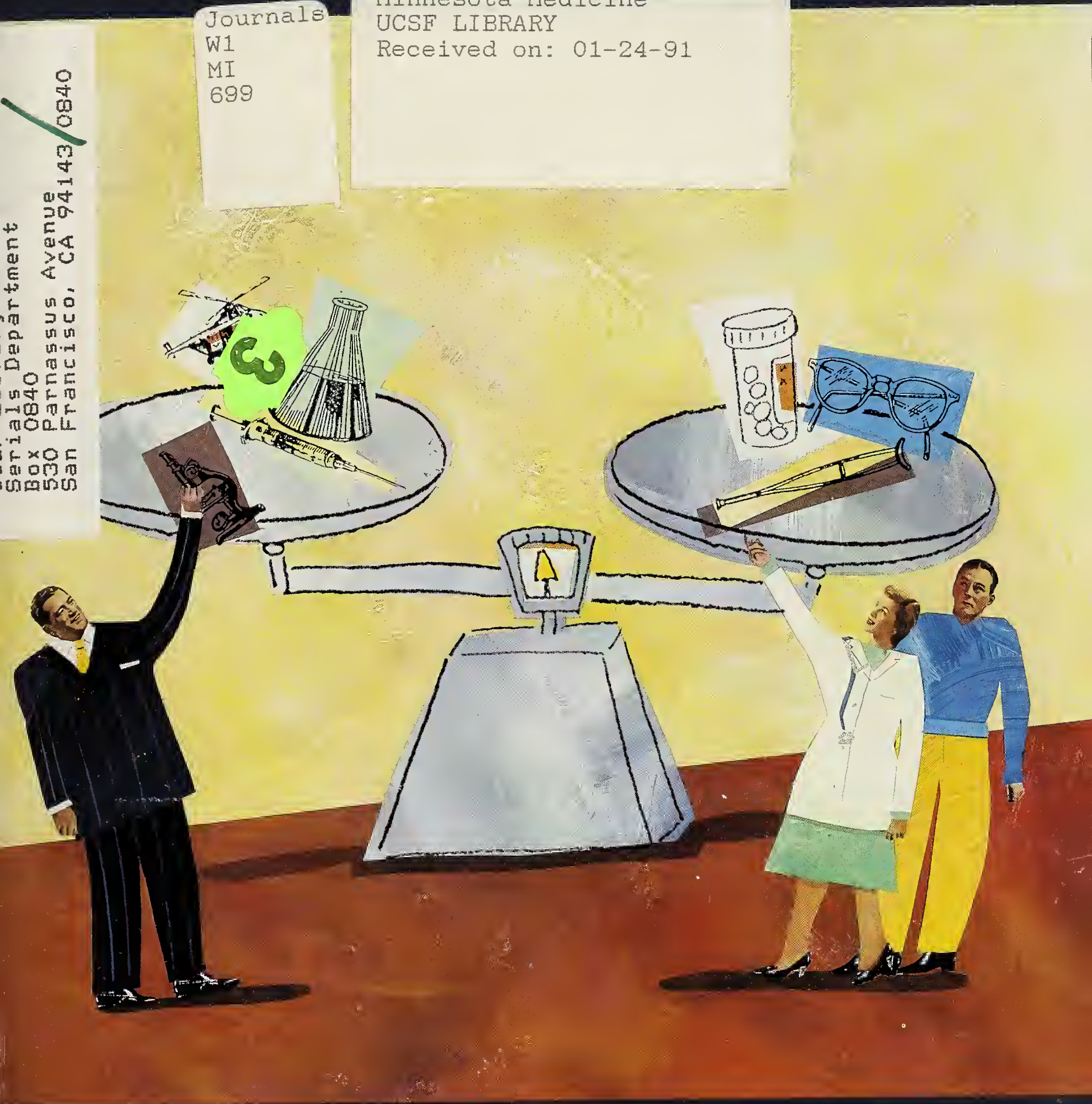

The Give-and-Take of Health Care Access Reform

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JANUARY 1991 VOLUME 74 NUMBER 1

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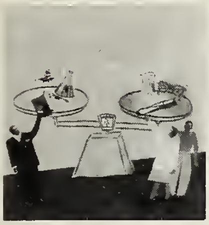

COVER

Health Care Access has reached a crisis point in the United States, and Minnesota is leading the way toward reform. Physicians and other concerned groups are working together with the Minnesota Health Care Access Commission, trying to strike a balance and bring equity to our system. This month, *Minnesota Medicine* highlights the health care access reform movement.

Cover art by Tom Garrett, a Minneapolis illustrator.

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Bringing Equity and Balance to Health Care Access

Edmund C. Burke, M.D.

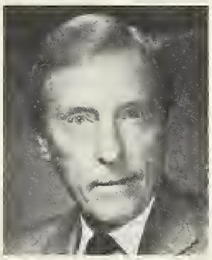
This month's issue of *Minnesota Medicine* highlights the subject of health care access—surely the hottest topic in health care today.

Health care access is considered a crisis in our nation. The subject was prominent in the rhetoric of politicians in recent campaigns, and nearly all health care agencies and associations have called for radical reforms.

In the forefront of the issue stands the Minnesota Health Care Access Commission, a group that former Gov. Rudy Perpich appointed in 1989 to come up with recommendations for providing health insurance to Minnesota's uninsured at a cost not to exceed $150 million.

Lois Quam, chair of the access commission, is featured in this month's Face to Face interview (page 7). Quam believes there is a strong need for universal health care access because many Minnesotans go without needed services. "Each of us is vulnerable to losing our health care coverage through loss of a job or a change in our economic situation," she notes. "If that happens, we join the 8.6 percent of the population that doesn't have access to health care for all or part of the year."

The goal of the access commission, says Quam, has been to develop a framework for universal access to health care that would: 1) offer Minnesotans universal access to a basic set of benefits, 2) create true risk-sharing insurance, 3) streamline administrative costs, 4) reform current underwriting practices, 5) build on the strength of managed care systems, and 6) promote healthy life styles through patient education. This month, the commission will offer its proposal for universal health care access to the Minnesota Legislature. While the Minnesota Medical Association generally supports the commission's objectives, it does have some concerns, outlined in Dr. Richard Tompkin's President's Letter (page 37).



"While the health care access debate rages, concerned parties strive to be heard."

When the Legislature considers reform, a critical question will be what constitutes basic health care. In one of this month's Perspectives pieces, Drs. James Hart and Steven Miles discuss the process by which such a definition can be made. The access commission has recommended that the following services be available to all Minnesotans: primary and preventive care, prenatal and postnatal care, well-baby exams, immunizations, selected disease screening tests, and limited physician visits.

Edward P. Ehlinger, M.D., M.S.P.H., believes in a public health system, and in his Perspectives essay (page 15) he stresses the advantages of preventive health. Each year the United States spends more than $6 billion treating problems such as heart disease, cancer, HIV infections, low-birthweight infants, and other preventable disorders. In order to achieve the year 2000 health objectives for the nation and to avoid bankrupting

Publisher's Note: Edmund C. Burke, M.D., has been appointed *Minnesota Medicine*'s interim editor-in-chief by the Minnesota Medical Association's Board of Trustees. The board is conducting a search to replace Richard L. Reece, M.D., who resigned as editor effective January 1, 1991.

Dr. Burke, emeritus professor of pediatrics at Mayo Medical School, retired after 34 years with Mayo, where he began as a Fellow in 1948. He is currently a consultant to the Olmsted County Health Department and associate director of the Zumbro Valley Medical Society. He is a member of the American Medical Association's Section Council on Pediatrics and has served on the Executive Board of the American Academy of Pediatrics and the Residency Review Committee for Pediatrics.

A member of the MMA's Communications Committee, Dr. Burke has worked with several medical publications, including *Minnesota Medicine*, where he has been an Advisory Committee member for two years. He has also written the "Healthy Kids" column for the Rochester *Post-Bulletin* for nearly five years, served on the editorial board of the *Mayo Clinic Health Letter* for two years, and was editor of the Rochester Rotary Club's newsletter for six years.

our economy, we must incorporate a prevention strategy into our health care system, says Ehlinger.

While the health care access debate rages, concerned parties strive to be heard. The Health Care Campaign of Minnesota claimed this fall that a government-run health insurance system would save Minnesotans $5.4 million a year by the year 2000. It could do so by eliminating waste in the health insurance industry and the health care delivery system. A single-payer system like Canada's is one option the access commission is considering.

But the American Medical Association and its component state societies recommend reforms preserving the health insurance industry and the system's fundamental strengths. The AMA points out that our nation's system is centralized, pluralistic, patient-centered, and technologically unparalleled.

Those favoring the Canadian system may not realize its serious shortcomings compared with the U.S. system. According to the AMA, it is less responsive to consumers and requires higher taxes. The Canadian health system also has restricted access to technology, long waiting lists for elective surgery, and a rationing of care to constrain demands.

The health care access debate is complicated enough to confuse anyone. Physicians are caught in the middle between insurers, payers, and poor consumers, all of whom have a stake in the outcome.

But there is one point everyone seems to agree on: access to our health care system must be reformed. As a result, concerned groups are working together, struggling to find balance and bring equity to the system. MM

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At the Center of Health Care Access Reform

A. Stuart Hanson, M.D., interviews Lois Quam

Universal health insurance will be one of the Legislature's hottest issues this session, and Lois Quam is at the center of debate. Appointed by former Gov. Perpich to chair the Minnesota Health Care Access Commission, she has been a leading figure in devising a proposal for manageable and affordable health insurance for all Minnesotans.

Lois Quam's job is important to most, and perhaps all, Minnesotans. According to the commission's research, 6.5 percent of Minnesotans lack health insurance at any point in time, and 8.6 percent are uninsured sometime during a given year. And the problem affects not only the state's poor and unemployed; the Center for Policy Studies reports that over half of all uninsured Minnesotans are either self-employed or employed by small firms that don't offer health insurance. Many more people have inadequate coverage. During the legislative session that opens this month, the commission will present its proposal for insuring these Minnesotans in a way it believes is fair for insurers, businesses, and the public.

Quam, who received a master's degree in politics and economics at Oxford as a Rhodes scholar and is director of research and development at United HealthCare, believes in conducting solid research first to identify and then to rectify weaknesses in our health care system.

Interviewing Quam is A. Stuart Hanson, M.D., who chairs MMA's Medical Benefits Task Force. The task force has been working since August to define a package of basic medical benefits that MMA believes should be available to all Minnesotans and will be submitting its final report to the MMA Board of Trustees this month.

What is the goal of health care? What barriers and limits restrict access to medical care? And how can they be overcome? These are some of the difficult questions the task force and the access commission have been examining. And although they are not entirely in agreement on all issues, both groups hope their work will help make health care accessible to all Minnesotans. (The President's Letter, page 37, discusses the MMA's reaction to the access commission's proposals.)

Lois Quam

> "Many, many Minnesotans go without access to needed health care services."

Researching Tough Questions

Hanson: Ms. Quam, you're the director of research at United HealthCare and chair of Minnesota's Health Care Access Commission. Would you tell us more about your background and what led to these positions?

Quam: I am a native of Marshall, Minnesota. I have had a long-standing interest in health care with a background in health economics. I have a strong motivation to improve our health care system by making health care accessible to all people and by providing cost-effective, high-quality health care. I think that is incumbent upon good research. We need to research the issue and provide complex answers to what are complex questions.

Hanson: What kind of research are you conducting at United HealthCare?

Quam: At United HealthCare, where I am director of research and development, we're conducting research on the cost effectiveness and quality of health care. Much of the traditional emphasis in managed health care has been on cost containment, not cost effectiveness. We're developing measures for assessing the quality and effectiveness of health care in a broad sense. We're looking at traditional patient clinical outcomes and at patient functional status. Then we're giving that information back to physicians and health plan managers to help design a better and more effective health care delivery system.

The Access Commission

Hanson: Who appointed Minnesota's Health Care Access Commission, and what is its mission?

Quam: The commission was established by the 1989 Legislature with the mission of reporting to the Legislature in January 1991 with a detailed blueprint for universal access to health care in Minnesota. By statute, its members include the commissioners of Health, Human Services, Employee Relations, and Commerce. Three senators were appointed by the Senate majority leader and three representatives by the speaker of the House. The remaining 15 members were appointed by former Gov. Perpich. They represent consumers, physicians, nurses, employers, insurers, and other constituencies.

Hanson: Why is there a need for the Health Care Access Commission here in Minnesota?

Quam: There is a strong need for an access commission and for the legislation that will be derived from it because many, many Minnesotans go without access to needed health care services. In fact, each of us is vulnerable to losing our health care coverage through loss of a job or a change in our economic situation. If that happens, we join the 8.6 percent of the population that doesn't have access to health care for all or part of the year. And many more people than that have health insurance of very poor quality. Because of that need, the Health Care Access Commission was formed to develop and recommend a plan to make access to health care universal in Minnesota.

> "Not having insurance constitutes a real barrier to getting needed care."

Hanson: What are some of the commission's main findings at this point in time?

Quam: The commission has initiated several major research projects. With a group at the University of Minnesota, we conducted the first survey of Minnesotans to determine what kind of health insurance coverage they have. We surveyed 11,000 Minnesota households and asked members about their access to health care. Several of the findings were surprising. The good news is Minnesota has the second-lowest number of uninsured people in the country, next to Hawaii. Minnesota also has a proportionately higher number of people who have some form of state insurance—the Children's Health Plan, for example. Minnesota employers have been more likely to offer health care coverage than employers in other states, and we've done more to improve health care access than other states have, which makes taking the final step to providing universal health insurance much more feasible.

Disturbingly, however, 28 percent of uninsured Minnesotans said they had delayed seeking health care over the past year, 70 percent of them for serious or moderately serious symptoms. That's a very large number of people, roughly 100,000 Minnesotans. People had delayed seeking treatment for such conditions as chest pain in middle-age men and otitis media in children—conditions for which medical care makes a difference. Even more distressing was our finding that 3.5 percent of uninsured Minnesotans (about 15,000 people) surveyed had been refused health care during the past year. Again, the conditions and symptoms included such problems as chest pain and ear infections—mostly problems that could be treated in the doctor's office. Not having insurance constitutes a real barrier to getting needed care, and it's mostly a barrier to getting primary and preventive care and treatment for acute conditions. Those findings surprised and distressed us and made us very committed to fulfilling our mission.

'A First Step to Health'

Hanson: What are some of the commission's policy recommendations?

Quam: The commission will be recommending to the Legislature a plan for universal health care coverage for all Minnesotans. The plan will be available for purchase by Minnesotans according to a sliding fee scale. We are recommending that the coverage be for a basic set of benefits, which include primary and preventive benefits, benefits for hospital outpatient care, and a set of inpatient benefits.

Hanson: How limited is that set of inpatient benefits?

Quam: The first day is fully covered, after that an 80/20 benefit applies with a $2,000 out-of-pocket maximum. That maximum will be based on a sliding scale. We are attempting to provide primary and preventive care coverage, while protecting people from losing all their assets due to catastrophic expense. Our survey showed that people favored primary and preventive coverage over catastrophic coverage; however, a large number of people were very interested in catastrophic coverage. So our plan provides both, with a fee-scale-based deductible on inpatient care.

Hanson: So the individual may have five or seven days of hospitalization covered and then a deductible?

Quam: That's right. And, of course, individuals can purchase a supplemental insurance policy as well. We are calling this set of benefits "A First Step to Health."

Hanson: Will you recommend that all citizens be required to have health insurance?

Quam: Yes. Through vigorous outreach efforts, we will be urging all Minnesotans to enroll in this plan or another plan of their choice. Ultimately, we are recommending a requirement that all Minnesotans hold health insurance coverage.

Hanson: Would that requirement be implemented immediately, or phased in over time?

Quam: We will introduce the requirement up-front, but we will phase in its enforcement over time. We're doing that for several reasons. First, we think health care is a right of citizenship in Minnesota, but with that right comes some responsibility. None of us will be turned away from the hospital in an emergency. In turn, all of us must help to support the health care system.

There are good public health reasons for requiring everyone to have access to primary and preventive care benefits. The measles epidemic in St. Paul is a good example. The St. Paul Health Department found that 40 percent of the kids who didn't get their measles vaccinations on time were uninsured. Finally, it's much more affordable to include everyone, and you have a much more insurable risk pool—that's what insurance is all about. In a voluntary system, there is a risk that people will enter only when they have health care needs and opt out when they don't. That's not insurance.

'Selling' the Proposal

Hanson: A new administration will take over this month. Arne Carlson is our governor, and we'll have some new members of the Legislature. How do you think the new Legislature and new administration will address the problem after you make your report?

Quam: Health care access is of prime interest to both the governor and both houses of the Legislature. They found in their polling in the last election that it was the No. 1 issue in Greater Minnesota, cited ahead of education and taxes; in the metro area it was ranked third. Minnesotans want to see a change. Gov. Carlson has voiced support for the commission's preliminary work, and both he and the Legislature have heard from their constituencies that action needs to be taken. We are providing them with sound research showing how many people will be covered by the program and how much it will cost. We've spent the last year holding public hearings and conducting extensive deliberations to design a good policy. We'll now offer it to the Legislature, where it will take the form of several bills for legislative action.

> "It will be very difficult to reform our very fragmented and complex health care system."

Hanson: How will the commission try to sell this program to the medical community and other groups?

Quam: We hope the commission's report generates a tremendous amount of public discussion about the problems of health care access and about the more general problems in the health care system. The commission will use its report as a springboard for those sorts of discussions and will meet, as it has over the past 18 months, with the medical community, key consumer groups, the senior federation, insurers, and others.

Hanson: What problems do you foresee in implementing the commission's proposals?

Quam: It will be difficult to reform our very fragmented and complex health care system with its many programs and overlapping administrative burdens on providers and purchasers. The state currently provides health care programs through about seven different agencies; we are recommending that all those agencies be consolidated into one entity. A single system will lessen the burden on physicians and hospitals, who currently have to respond to multiple state agencies. But reform will be difficult.

Hanson: Paperwork is a big problem for physicians. The various payers all have different forms and requirements for obtaining reimbursement. Physicians would welcome having a single form for all their patients. On the other hand, they are fearful about having a single fee schedule that is similar to Medicaid. How does the commission address that concern shared by physicians and hospitals?

Quam: The commission has focused on the high administrative costs of health care, estimated to be about 25 percent of all health care expenditures nationally. The commission and others would like to see less money spent on administration and more on health care provision. We'd like the uninsured to receive the health care they need, and we'd like to see physicians fairly reimbursed for treating Medicaid patients. In the last 20 years, administrative costs have expanded far more than any other aspect of health care, and patient outcomes have not improved accordingly. The commission is recommending an increase in the Medicaid fee schedule.

Funding the Proposal

Hanson: You're proposing a plan that would expand health care coverage, and despite improving efficiency, would cost more money. How much will the program cost, and what sources of funding will you recommend?

Quam: The Legislature has asked us to present a plan that will cost no more than $150 million in new state money to cover the uninsured. Some new money will be needed, but, in many ways, it's more of a reallocation of money already in the system. The commission is going to recommend that the Legislature consider several funding sources for the program. The first is premium contributions by program participants. The second is savings in terms of current state expenditures. In addition, we are recommending several possible sources of new state revenue, such as a change in income tax to increase revenue; a new sales tax on health services; a property tax on intangible financial assets; an employer payroll tax; and a new "sin" tax on cigarettes, alcohol, and the lottery.

As we look at funding for the program, it is important to keep in mind that Minnesotans spend a huge amount on health care, and many of them pay a lot of money for very low value. We will be providing them with a way to buy health care that will be of greater value and that won't cost them more money.

Hanson: In theory, insurance should spread risk across a large population, including the well population. The health services tax would seem to be taxing the sick and not spreading the risk broadly; not everyone uses health care services in any one year, and the sickest would be taxed the most. As I understand it, there would be a tax on the service as it's provided, and not a tax on the premium.

Quam: The tax would be charged at the point of use, but the added expenditure would be picked up in the premium payments. It wouldn't be simply a tax on premiums. The problem with the tax on premiums is ERISA (the Employee Retirement Income Security Act); self-insureds are excluded. You actually give an increased incentive to self-insure, and you further divide the insurance market. With the tax on health services, you spread the cost across the whole population because it needs to be reflected in everyone's premium. But people with Medicare and with Medical Assistance would be excluded from the tax.

Hanson: Let's say I was treated in an emergency room. The bill came to $100 and included a 6 percent tax. My insurance company covers $80. Would I have to pay the $6 tax, or would my insurance company pay it?

Quam: The total service would be taxed, and your share would be $1.20—6 percent of your $20 copayment.

No tax is popular, but the current health care system is unpopular. Because individuals will pay on a sliding fee scale, it will be necessary to subsidize different parts of the population. We need a revenue source to do that. Spreading that cost across the health care system brings us back to some of the true concepts of insurance.

The Role of Providers and Insurers

Hanson: How do you envision providers participating in the new health care plan?

Quam: I see the new plan as relieving providers of two significant burdens, one immediately and the other over time. First, under the current health care system, providers must make decisions about rationing care based on their patients' financial access to health care and not on medical need. Our research has shown that physicians must deal with very high unpaid medical bills, with turning people away, or with knowing their patients are not coming to them because they don't have health insurance. That will no longer be the case in Minnesota. Under the new plan, doctors can be assured that all their patients will have insurance for health care services. Physicians will be able to treat all patients knowing they will be paid for their services, and they will know that their patients won't delay seeking needed care because of financial reasons. Second, over time, I believe we can lessen health care's onerous administrative burden by consolidating the various billing systems, state regulations, utilization review programs, and other requirements.

Hanson: What role will private insurers play in the new state health plan?

Quam: The commission's plan is a public and private partnership. The new program for the state's uninsured and underinsured will ask private insurers to bid for coverage of this population—something over a half million Minnesotans, we believe. The private insurers' plans should include features of sound managed care practices: case management; nurse telephone services; and easy, inexpensive access to medical information.

We expect that such plan options may not be available in some parts of the state. In those areas, the state will pay providers directly for services provided to the uninsured.

Hanson: One problem is portability of insurance coverage if an enrollee changes jobs. Will this be a problem under your proposal?

Quam: No, because our system will be based on individual coverage. An individual who joins the new program can change jobs and stay with the same health plan. Coverage will not be based on employment.

Hanson: Will people who are employed and already have insurance have a chance to buy into this plan?

Quam: Yes. The plan will be different from past programs, because it's not a welfare program. All Minnesotans will be eligible to enroll in the program, which offers the advantages of large group purchasing to small groups and individuals.

Hanson: Do you envision the state health plan getting larger and perhaps eventually covering half or more of all Minnesotans?

Quam: I think that's possible but unlikely. Many Minnesotans are happy with their current insurance coverage. However, the private market has failed to provide universal coverage to Minnesotans, and over time the state has created a number of programs to address populations with specific needs. However, those programs never address the problem in its entirety. We need a system that guarantees access universally.

Hanson: Are you setting up the potential for a public plan that actually competes with the private plans?

Quam: The public plan we're establishing will ask for bids from the private plans. In places where acceptable options aren't available, the public plan will provide direct coverage. The state's role is to ensure that all its residents have access to a basic level of health care services. We want to take advantage of what the private sector does well, which is develop innovative responses to new problems. That's why we're encouraging a public/private-sector partnership. But, at the end of the day, it will be the state's responsibility to ensure that everyone has access to basic health care.

Hanson: Why should we be trying to establish universal health care access on a state level rather than nationally?

Quam: I think we can do it better on a state level. Historically, the states have served as effective laboratories for devising complex policy solutions to address public needs. The federal government has not done a good job of addressing this issue. With some of the recent budget problems, it would be very difficult for the federal government to develop policy to address an issue this complex. In Minnesota, we have an opportunity to do it right. **MM**

Basic Benefits and the Hope for Rational Rationing

James F. Hart, M.D., and Steven H. Miles, M.D.

The party is over. Health care's indiscriminate feast on the budgets of American business and government has come to an end. Over the last 30 years, its claim on the national economy has gone from 6 percent of the gross national product to 12 percent (while such sectors as education and defense have remained stable). The escalation of health care costs nationally and locally has become a crisis. Anyone who doubts this basic assumption has chosen to ignore the facts.

Nationally, we spend more than $600 billion per year on health care, an increase of 700 percent since 1970.[1] Every year, businesses spend an average of about $2,500 on health care for each of their employees—nearly twice what most other developed nations pay. In Minnesota, it is estimated that we spend close to $10 billion per year on health care.

Some people will argue that Americans are willing to commit still more resources to the health care sector. This view can be held only in the abstract. A recent Harris poll found that 91 percent of Americans believe that everyone should have a right to the best possible health care—"as good as the treatment a millionaire gets."[2] However, only 10 percent would agree to the $125 annual tax increase that would be needed to make this ideal possible. The message is clear: Americans want unlimited health care services, but they are unwilling to pay any more for them.

Perhaps economist Uwe Reinhardt makes the point most succinctly. He has estimated that if health care expenditures continue to outpace general inflation at the current rate, by the middle of the next century we will be spending our entire GNP on health care.[3]

Despite these large expenditures for health care, access to that care remains inadequate, inequitable, and often unjust. Between 31 million and 37 million Americans are without health insurance coverage, and perhaps as many more have poor coverage. In Minnesota, a recent survey[4] revealed that 8.6 percent of our residents (370,000 people) were uninsured for at least one month out of the last year (6.5 percent of Minnesotans at any given time), and 8.8 percent of our population (380,000 people) purchased individual insurance coverage—often for limited benefits at high premiums. This latter group is often called the "underinsured."

These dual problems of escalating costs and decreasing access are the winds fanning the flames of the basic benefits debate. Undoubtedly, in a climate of universal health care access at a more moderate cost, this debate would not be occurring. The frustrations of purchasers of care have become manifest in a demand for a more specific definition of basic benefits. Their hope, of course, is that a narrower description of basic benefits will allow for some coverage to be eliminated, thus saving money. This year, Minnesota has seen a veritable stampede to the basic benefits altar, with no one wishing to be left behind.

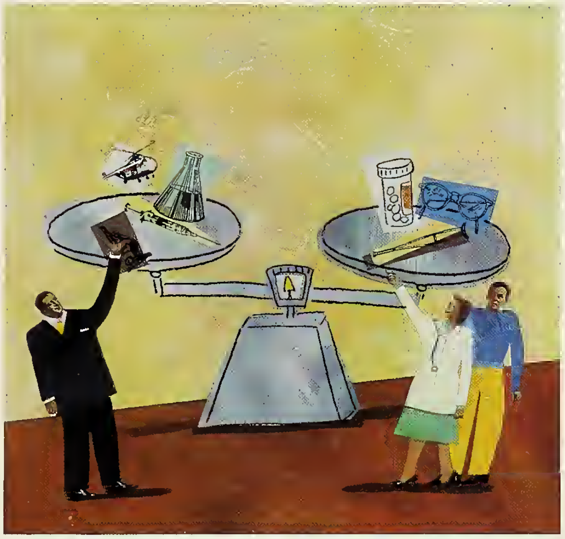

ILLUSTRATION BY TOM GARRETT

This paper describes the movement to define basic benefits in Minnesota and contrasts it with similar efforts undertaken in Oregon—the first state to attempt to define basic benefits and, in essence, to ration health care. We then propose (with much borrowing from ethicist Daniel Callahan) a new way of thinking about the role of the health care system in our society—a role that we hope will make rationing more rational.

Minnesota's Experience

The debate over basic health care benefits has been underway for several years in Minnesota. In a 1983 position paper, the Minnesota Medical Association (MMA) stated that consumers should have basic health care benefits and catastrophic coverage, and that the state government should cover those who are unable to pay.[5] That paper did not attempt to define basic benefits. With various community groups calling for study, the MMA House of Delegates in May 1985 resolved that "the MMA should study the issue of what constitutes 'basic health care' and take a leadership role in efforts to reach a community consensus." A task force was formed and proposed the following definition of basic health care: "Basic health care consists of those medical services that are necessary to prevent, diagnose, or treat disease and injury, provided in a cost-effective manner according to generally accepted standards of care in the least costly treatment setting consistent with patient needs and quality considerations. Purely cosmetic procedures, experimental and unproven procedures and therapies will not be considered basic. The following are elements of basic care: prenatal and maternity care, infant care and immunization, periodic evaluation and screening, preventive medicine, dental care, treatment and rehabilitation of injury, diagnosis and treatment of illness or dysfunction, diagnosis and care of mental illness and chemical dependency, care of elderly persons, and terminal care."[6] This definition was reviewed by another MMA task force in 1988 and was not substantially changed.

In response to pressure for yet a more specific definition, the MMA House of Delegates resolved in May 1990 that "the MMA establish a process to define the specific services and procedures comprising basic medical care which could serve as a floor which all public and private health care insurance plans would be required to meet and that the MMA recommend other medical and health care services and procedures beyond basic medical care insurance plans in order to provide covered individuals' needed medical, health, and social services." Based on this resolution, the MMA Board of Trustees established the Medical Benefits Task Force, which is chaired by A. Stuart Hanson, M.D., and includes 15 physicians and 11 other health care experts. The task force met five times in 1990 in an attempt to set priorities for defining basic medical services. After deciding what basic values were most important in the ranking of medical services, the task force proceeded to rank a comprehensive list of services.

> "Americans want unlimited health care services, but they are unwilling to pay any more for them."

The task force identified the following values as being most important in defining basic benefits: universal access, fairness, efficiency, cost-effectiveness, and democracy. Furthermore, the task force proposed that medical care should meet the following goals: preservation of life, relief of suffering, limitation of disability, promotion of the public's health, and consideration of value.

Although the task force's rankings are still being refined, it is instructive to look at its priorities. Such services as prenatal care, maternity care, well-child care, physician services, ambulance services, and inpatient hospital treatment were ranked highest. Such services as infertility treatment, cosmetic surgery, certain transplants, and acupuncture were ranked lowest.

Concurrently, Minnesota's Health Care Access Commission, established by the 1989 Legislature to recommend a plan to provide access to health care for all state residents, has been considering benefit and service packages to be included in its proposed state health plan.

Following legislative budget guidelines, the commission soon realized that only a modest set of benefits could be offered initially as part of a state health plan. After much debate, the Health Care Access Commission identified the following services as essential to a package that emphasized primary and preventive care: prenatal and post-natal care, well-baby exams, immunizations, selected disease screening tests such as Pap smears and mammograms, a limited number of physician visits, and some limited inpatient care. Of note is the overlap between these priorities and those of the MMA task force. At least some consensus is developing about the most essential services.

The debate over basic health care in Minnesota goes beyond these two groups. For example, Blue Cross and Blue Shield of Minnesota and the Minnesota Commission on Health Plan Regulatory Reform have both suggested plans for small employers that would exclude prescription drugs and treatment for mental illness and chemical dependency. The Citizen's League endorsed this concept and called for the state to enact a moratorium on new mandates until universal access to a basic level of health coverage is accomplished.[7] A recent conference sponsored by the University of Minnesota Center for Biomedical Ethics, "Drawing the Line: Defining a Basic Level of Health Care," brought together national experts from the humanities and public policy to discuss the primary objectives of defining a basic level of care. Clearly, interest in this subject is not waning and will not until the dual problems of cost and access are solved.

Oregon's Experience

In 1989, the Oregon Legislature passed the Oregon Basic Health Services Act. This act established the Health Services Commission (HSC), which was charged with setting health services priorities, "from the most important to the least important, representing the comparative benefits of each service to the entire population to be served." The HSC developed a mathematical formula, reflective of both social values and clinical effectiveness, to rank a list of 2,000 health services. According to the formula, as effectiveness or desirability goes up, the net benefit value (NBV or priority ranking) goes up. As per capita cost goes up, the priority ranking goes down:

$$\text{NBV} = \frac{\text{likelihood of benefit} \times \text{importance of benefit} \times \text{duration of benefit}}{\text{cost}}$$

This process has come under intense criticism. Some critics question its legitimacy because the "importance of benefit" was determined by polling healthy, rather than sick, Oregonians. Others point out that assumptions had to be made about an "average person" with an "average indication," and as a result, a coronary angiogram for a 40-year-old pilot would be weighted the same as a coronary angiogram for a 55-year-old diabetic. The formula also discriminates against diseases that occur later in life, which accordingly offer less "duration of benefit." Furthermore, the list was to be applied only to certain Oregonians—those with public (state) insurance. Hence, health care access was rationed across only a part of the population. Many people believe this approach is unethical.

Oregon's HSC has responded to these criticisms and is currently modifying the NBV formula, which it will make public later this year. The process promises to be fascinating to observe. The Oregon Legislature and the Oregon HSC are to be admired for their courage in assuming this difficult task. Their example is worthy of study by us and the rest of the nation.

Conclusion

The process of defining basic benefits is a troublesome one. Although it is possible to identify certain services that are essential and some that are optional, most will fall somewhere in between. These are the services that are desirable in some cases, but less so in others. Drawing these lines will inevitably cross through legitimate and compelling human needs and wants. In a real sense, this is the process of rationing.

"The concept of basic health care has ethical validity only in the context of universal access to health care."

So why should this process of setting priorities or rationing be so difficult? Ought we not be able easily to rank the value of various services and then draw lines based on resource realities? We suspect that ethicist Daniel Callahan has put his finger on the real paradox of the basic benefit debate. He divides health care into six levels. The first four levels include such things as relief of pain, institutional care for the chronically ill, adequate nutrition and sanitation, health promotion, immunization, treatment of contagious diseases, and emergency care.[8] The last two include advanced forms of medical care and the provision of highly advanced, technological medical therapy.

Notably, Callahan's first four levels tend to be based on the values of caring and community; whereas his last two levels are based more on the values of curing and individualism. Most of our discussion of basic benefits and rationing goes on in these latter two levels. And here is the paradox. Because these levels are directly related to individual curative needs and wants, any limits on them will appear unfair to individuals who fall outside the limits. No amount of medical progress will solve this dilemma, since some individual needs or wants will always go unmet.

Consequently, Callahan urges us to take a new look at the role of medicine in society. He argues that the best medicine for a good society is one where "there must, first, be a sufficient level of general good health to assure the viability of a society's social, cultural, and political institutions. There must, second, be a willingness to guarantee its citizens a decent baseline of public health and individual caring, and then beyond that as much—and only as much—individualized cure of disease as is compatible with overall societal needs." He goes on to say that the best society for a good medicine is one "that understands that a society has many needs and dimensions, of which health is only one and itself no more than a means to other ends. It will be a society that comprehends that, however insistent the individual desire to overcome illness and forestall death, that desire must at some point be resisted so that other human ends can be sought and nourished, those that together respond to the full range of individual and social possibilities."

How might we move toward Callahan's ideal? We would argue that the first line to be drawn must be the one drawn inclusively around our entire community; the concept of basic health care has ethical validity only in the context of universal access to health care, since everyone should have a right to this basic care. Only in this sense can rationing be rational.

When we suffer and are treated together, we can move from arbitrary definitions of basic care to a definition shaped by compassion and the broadest sense of social responsibility. Other nations have shown that this is not idealism but a necessary foundation for proper public policy about difficult and sometimes tragic choices. They are better for it; we should do as well. MM

James Hart, a member of the Health Care Access Commission, has been an internist in Stillwater, Minnesota, for 12 years. Effective January 1 he became the associate medical director for quality and utilization management at Group Health, Inc.

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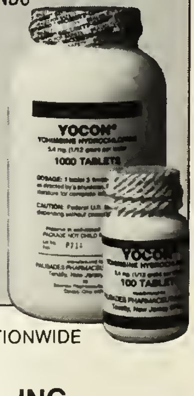

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Access to Health Care and the Year 2000 Objectives

Edward P. Ehlinger, M.D., M.S.P.H.

News Release: September 6, 2000

"As a society, we are healthier now than at any time in our history," stated the secretary of the U.S. Department of Health and Human Services today when she released a report on the health status of Americans. In releasing the report, the secretary noted that, "Although we still lag behind several other industrialized countries, we have made tremendous progress in reducing preventable disease and injury. We have achieved some long-pursued goals that many thought were unattainable. Remarkably, we have achieved these goals with a stable health budget. We have finally demonstrated that prevention works."

Highlighting some of the most significant accomplishments, the secretary stated that for the first time:

- deaths from coronary heart disease are less than 100 per 100,000 people,
- fewer than 15 percent of people over age 15 smoke,
- fewer than 30 percent of all pregnancies are unintended,
- suicides have been reduced to less than 10 per 100,000 people,
- people are enjoying more than 65 years of healthy life,
- deaths due to unintentional injuries are less than 29 per 100,000 people, and
- the infant mortality rate is less than 7 per 1,000 live births.

The secretary credited three activities with helping us to achieve these objectives: 1) major lifestyle changes among the U.S. population, 2) the implementation of health policies that assure universal access to basic health care, and 3) the incorporation of preventive health services into routine health care.

The release of this report comes exactly 10 years after the publication *Healthy People 2000*, a landmark document that outlined national health promotion and disease prevention objectives.

On September 6, 1990, the secretary of the Department of Health and Human Services released *Healthy People 2000*, which challenges us to become a healthy people by the year 2000 and offers a blueprint for this accomplishment.[1] This document challenges us to achieve three broad goals for the 1990s: 1) increase the span of healthy life for Americans, 2) reduce health disparities among Americans, and 3) achieve access to preventive services for all Americans.

To achieve these goals, 298 objectives in 22 priority areas have been established. Seven of these objectives are listed in the adjacent hypothetical news release. Using health promotion, health protection, and disease prevention as the major approaches, the objectives chart a 10-year course for improving our health status.

Realistic and Reasonable?

Are these objectives realistic, and do we have a reasonable chance of achieving them? The first part of this question can be unequivocally answered—yes. The Year 2000 Objectives were the result of three years of work by the U.S. Public Health Service, the Institute of Medicine, all state and territorial health departments, and more than 300 national voluntary and professional organizations. Presentations at 25 public hearings and circulation of the draft objectives to more than 10,000 people assured public and professional input.[2] Using current data, the objectives are based on realistic projections of where we could be by the year 2000.

The second part of the question (Do we have a reasonable chance of achieving the objectives?) is more problematic. If we continue with "business as usual," we will end up like we did with the 1990 objectives, achieving some but missing many of the most critical ones. Achievement of the Year 2000 Objectives will require some major changes in our individual lifestyles and in the structure and function of our health care system. The real question is whether or not we have the individual and societal will to make the changes we know are needed to become a healthier society.

As the fabricated year 2000 news release stated, American society will have to make three major changes to achieve our goals. We will have to: 1) alter personal behavior to improve health and prevent disease, 2) assure universal access to basic health care, and 3) incorporate preventive health services into routine health care.

Continued

Lifestyle Changes

Americans of all ages tend to be overweight, sedentary, and physically unfit. We also tend to eat too much fat, drink too much alcohol, smoke too many cigarettes, and commit too many violent acts. Achievement of the Year 2000 Objectives will depend a great deal on the elimination of these factors and behaviors. Although each person is ultimately responsible for making changes in his or her lifestyle, the total responsibility doesn't lie solely with the individual. Personal lifestyle choices are made in a social context;[1] therefore, our economic and societal systems, such as education, entertainment, and health care must share that responsibility.

Our success in changing society's perception of smoking demonstrates the power of these systems to change individuals' behaviors. The energy of these powerful systems must now be focused on the broad range of health-enhancing behaviors. These behaviors may be difficult to change, but they will ultimately determine whether or not we achieve the Year 2000 Objectives.

Access to Care

Although most Americans state that health care is a right, the health care system we have developed belies that belief. Linking health care with employment and funding it through an insurance-based mechanism guarantees that people who most need care are least likely to get it. Similarly, tying government-supported health care to the welfare system reinforces the notion that health care is not a right, but a perquisite of wealth or a component of the largesse of our society.

Access to health care has been shown to improve the health of individuals and groups. Other than lifestyle, which includes economic status, access to care is probably the major determinant of health in our society. If we are to achieve the Year 2000 Objectives, we must affirm our belief that health care is a right with policies and systems that guarantee access to care for all Americans. In doing this, we must re-examine our current reliance on an employment-based health care system[3] and the insurance model that finances it.[4]

> "Most Americans state that health care is a right; the health care system we have developed belies that belief."

Preventive Health Services

Assuring access to health care will be necessary, but not sufficient, to achieve the Year 2000 Objectives.[5,6] The content and quality of that care will be as important. The training of health care providers and the funding of our health care system are based on the disease/treatment model of health care. Providers are paid for diagnosing and treating disease, while the prevention of disease receives little or no reimbursement. In fact, the more technologically based the treatment, the higher the reimbursement. It is not surprising that providers have followed the economic imperative and provided what funders have underwritten.

The sophisticated technology used to diagnose and treat disease has surpassed our ability to pay for it.[7,8] We spend more than $600 billion each year treating such problems as heart disease, cancer, injuries, HIV infections, alcohol-related problems, low-birthweight infants, and infectious diseases. All of these are preventable. To avoid bankrupting our economy or rationing health care, we must incorporate an aggressive prevention strategy into our health care system.[8]

An outline for implementing preventive services into routine clinical practice has been proposed by the U.S. Preventive Services Task Force.[9] The task force has recommended numerous age-related measures that have been documented to prevent disease or injury. Most of these were simple, low-cost procedures. Incorporation of these measures into everyday practice will require a change in our current funding policies and procedures and a retraining of providers about the benefits of preventive health services.

Alternative Model

Under our current health care system, with its reliance on the disease/treatment model, we are now spending approximately 12 percent of our gross national product on health care. Although we invest more per capita on health care than any other country, many of our primary health indicators lag behind those of many other industrialized countries. Many of us who have vested interest in maintaining the current medical model have proposed numerous ways to make it more effective. However, tinkering with the current system will most likely prove inadequate for our needs. Without making some substantial changes to our health care system, we will fall short of achieving the Year 2000 Objectives.

To achieve our goals, we will need to embrace a new model of care, one that effectively deals with the issues outlined above. Fortunately, such a model exists. Unfortunately, it has always played a subordinate role to the disease/treatment model. The alternative model is the public health model.

Public health is not just services provided by a public agency to indigent individuals or a place of employment for civil servants. Public health is a broad-based philosophy of health care. This philosophy is broad enough to incorporate the disease/treatment model, as appropriate, while addressing other issues critical to the overall health of our society. Forming the core of this model are the basic principles that:

- Public health is population-based. While the medical care system focuses on the individual, public health is concerned with the entire population. This allows for a needs-based approach for setting priorities and allocating resources—an approach that is necessary if we are to develop a rational health care system.
- Public health defines health broadly. Rather than

focusing on specific diseases, public health incorporates a broader view of health and considers some of the social, emotional, educational, and spiritual components of life. It also permits the appropriate inclusion of multiple care providers in the system.

- Public health focuses on prevention. Recognizing that treatment is important, public health gives priority to prevention, assuring the most efficient use of resources and the optimal improvement of the overall health of our society.
- Public health encourages collaboration. Rather than encouraging competition for limited resources, public health fosters collaboration among all providers of service. Rational health planning and avoidance of duplication are fostered by this approach.
- Public health promotes long-term responsibility. Since many of the benefits of prevention activities are seen only in the future, public health takes a long-range view of health. This is exactly what is needed if we are to achieve the Year 2000 Objectives. A "bottom-line" approach for the next year will only reinforce the disease/treatment model.
- Public health fosters social responsibility. While our current system is reimbursement-driven, public health is outcome-driven and focuses on the efficient and effective use of resources. This focus encourages the use of prevention activities and cost-containment strategies like sole-source funding and prospective budgeting.
- Public health is concerned with social justice. Our current health care system is based on market justice; those with the resources receive the services. Public health views basic health services as a right and not as a perquisite of employment or wealth. It also believes that no one should benefit at the expense of others. With this approach, universal access to care is a given.

Experience with the public health model in a variety of settings has demonstrated that it holds promise for us as a basis for modifying our current health care system.[10] It is a rational and comprehensive model that, if used, would improve our chances of achieving the Year 2000 Objectives.

Conclusion

Healthy People 2000 offers us a vision of a possible future where not only the length but the quality of life is improved. It envisions a future where preventable diseases actually are prevented. *Healthy People 2000* also presents a picture of where we are now. The gap between our current status and our goals for the year 2000 is large. If we are to eliminate this gap, we will have to overcome many obstacles. Unfortunately, one of these barriers is our health care system.

Our current health care system denies access to millions of people, particularly those who most need care. It also gives priority to treatment services at the expense of preventive services. To achieve our year 2000 goals, these deficiencies must be addressed. Incremental changes in our current disease/treatment-focused health care system will be inadequate to meet our needs. They will only perpetuate a system that has allowed our health status to lag behind that of our peers in other countries.

Achievement of the Year 2000 Objectives is possible only if major changes are made in our health care system—changes that guarantee access to basic health services for all Americans and incorporate preventive services into routine health care. To do this, we will need to change the principles on which our health care system is based. The public health model offers a set of principles on which we can build a new health care system that is socially responsible and socially just. MM

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FEATURE STORY

Medical Schools Seek Ethnic & Cultural Diversity

Growing up in northern Minnesota, Geraldine Robinson often heard stories of her great grandmother, an Ojibwa medicine woman who healed with herbs. The stories helped convince Robinson at an early age that she wanted to be a physician.

"I never knew [my great grandmother], but she was my ideal," said Robinson, a Harvard graduate and fourth-year medical student at the University of Minnesota.

Gerald Hill's story is different. Hill grew up on the Klamath tribe reservation in Oregon and had no such role model. Because he was interested in science, he eventually left work in a plywood mill to study pharmacy at the University of Washington in Seattle, but he did not aspire to become a doctor.

Then, while doing volunteer work at the Indian Health Board, he met an American Indian medical student who persuaded him that he had the "right stuff" to be a physician.

"Before that, I never had that kind of belief in myself," said Hill, now an M.D. and head of the Center of American Indian and Minority Health at the University of Minnesota-Duluth (UMD) School of Medicine.

Robinson and Hill represent challenges facing U.S. medical schools today: recruiting and encouraging minority students to pursue medical careers. Medical schools are competing for students like Robinson, who knew she wanted to become a physician and had a background that suggested future success. But many other students are more like Hill, who was the first in his family to attend college and needed encouragement even to consider medical school an option.

St. Paul family physician Barbara Leone

. . . .

By Delores Lutz

The 1990s must produce more effective recruiting of racial and ethnic minorities into the American medical profession, educators say, because fairness and modern realities demand it.

Now "diversity" is the watchword in institutions such as the University of Minnesota, where officials insist that excellence in education cannot be achieved unless students are taught to appreciate a rich variety of cultures and, thereby, learn to cope with a complex world. A diverse faculty and a diverse student body are essential to that effort, according to a 1990 report to the university's Board of Regents.

Professors in the University of Minnesota Medical School are accustomed to lecturing to seas of white faces, and that must change, says Arthur Caplan, director of the university's Center for Biomedical Ethics. "If we only go to school with people like ourselves, we're less prepared to deal with people who aren't," he said.

> "If we only go to school with people like ourselves, we're less prepared to deal with people who aren't."
>
> *–Arthur Caplan*

For physicians, such preparation is essential because differences in language, customs, and values can affect communication, compliance, and quality of care. Physicians also are becoming increasingly conscious of the need to take their patients' race or ethnicity into account because of the prevalence of conditions such as diabetes or hypertension in certain groups.

Twenty years ago, policymakers resolved that more minority students must be brought into the health professions, and they were successful with Asian-Americans, whose first-year enrollment in the nation's medical schools jumped from 1 percent to 12 percent from 1968 to 1988.

But progress with other groups slowed during the past decade. Now the nation's medical schools struggle to recruit students from three racial or ethnic minority groups still underrepresented in medicine—American Indians, blacks, and Hispanics who are Mexican-American or mainland Puerto Rican.

In 1980, the three groups combined made up almost 20 percent of the United States population but less than 7 percent of the country's physicians.

The Association of American Medical Colleges (AAMC) and the Department of Health and Human Services consider that a problem. In a just and prudent society, their officials contend, each racial or ethnic group should be represented in the medical profession at least in proportion to its percentage of the population.

"It's a simple matter of equity," said Herbert Nickens, M.D., the AAMC's vice president for minority health, disease prevention/health promotion. "And minorities really bring a whole set of perspectives to medicine that are important."

For example, minority physicians may be able to help improve access for populations underserved by the American health care system. Members of minority groups tend to be less likely than their majority peers to seek needed health care, in part because there are so few physicians of color, health officials believe. Thousands of blacks die from such treatable illnesses as asthma, influenza, and pneumonia, contributing to a life expectancy that is six years lower than whites'. Yet only 3 percent of the nation's physicians are black.

Historically, minority physicians have been more inclined to serve poor and minority patients than have their majority colleagues, although experts warn that that fact might reflect discrimination of the past. And while no one is proposing a return to a segregated system of care, it is assumed that some minority patients prefer minority physicians.

"People have a right to have medical care from people they trust and feel comfortable with," said Helene Horwitz, assistant dean of student affairs at the University of Minnesota Medical School.

But blacks, American Indians, and Hispanics will remain underrepresented in medicine for some time to come, because their medical school enrollment is only half as large as their percentage of the population. In the 1989-1990 school year, people from those groups made up only 11 percent of the country's medical student body, according to the American Medical Association.

Their enrollment in Minnesota's three medical schools is at about half that level. The underrepresented minority enrollment in Minnesota medical schools has hovered around 3 percent in recent years, but it is higher for this year's entering class—5.5 percent at Minnesota's Twin Cities campus, 6 percent at UMD, and 7 percent at Mayo's medical school in Rochester. Although these percentages are actually higher than the groups' representation in Minnesota's population—estimated to be less than 4 percent in 1985—Minnesota's medical school officials say they want to do better.

The Mayo Foundation's chief executive officer, Robert Waller, M.D., considers ethnic and racial diversity a priority, and Mayo officials call their minority recruitment efforts "aggressive."

At the University of Minnesota, President Nils Hasselmo has issued institution-wide goals for 1994—doubling the hiring of faculty of color, raising minority student enrollment to 10 percent of the university's total enrollment, and improving the minority student retention rate by 50 percent. (The university's goals include Asians, who currently make up 7 percent of the faculty in the medical school and more than half its minority students.)

One difficulty medical schools face in recruiting the underrepresented groups is that the national minority applicant pool is small—3,049 applicants last year. In Minnesota, the pool is more like a puddle. Only 14 Minnesota residents belonging to one of the three underrepresented groups took the Medical College Admissions

Test last year, according to Cassius Ellis, M.D., assistant dean of minority affairs at the University of Minnesota Medical School. Consequently, the medical school goes fishing in the national pool.

The university medical school traditionally fills 80 percent of a class with Minnesota residents, but most of the minority students come from other states. This year's class has 180 students, including one American Indian, two blacks, and seven Hispanics. (The Hispanic students are not Mexican or mainland Puerto Rican, however, so technically, they are not included in the AAMC's targeted group.) Only two of the minority students are Minnesotans.

UMD's mission is to recruit students interested in rural practice, so almost all of its students are drawn from Minnesota. Its minority students—three in a class of 50 this year—usually are American Indians from Minnesota and North Dakota.

Mayo, which competes for students against the big-name schools elsewhere in the country, this year recruited three minority students—one from each underrepresented group—into a class of 41. At least half its medical students are from outside Minnesota.

Educators say Minnesota is at a disadvantage when competing in the national pool because its three medical schools, despite their quality, cannot win against those with more prestige, more scholarship money, and larger minority communities in their areas.

Private universities such as Harvard, Stanford, and Columbia prove more attractive, as do public universities such as Illinois, Michigan, Texas, and California (especially at San Francisco and Los Angeles).

The three schools originally established for black students—Howard, Meharry, and Morehouse—also provide competition; last year they enrolled 16 percent of the black medical students in the United States.

In recent years, Minnesota's schools have found themselves rejected more often than not, according to data published by the AAMC. At the University of Minnesota Medical School, two-thirds of the minority applicants offered positions in 1990 said "No thanks."

"We accept them, but they don't accept us," laments the medical school's assistant dean of admissions, Donald Robertson, M.D.

One reason the university is losing the battle, according to Horwitz, is because the "superb" applicants it gets are in great demand across the country. "The desirable minority student with good credentials is going to be wooed by everybody," she said.

Despite intense recruitment efforts, nationwide, the black, American Indian, and Hispanic medical student body has grown by only 2 percent since 1978, and some members of Congress have suggested that such slow progress is symptomatic of a retreat from the affirmative action policies of the early 1970s. Many medical school officials insist that the diagnosis is not that simple and that the cure will not be quick.

Decades of discrimination and societal indifference have taken their toll. Minority families tend to be less affluent than others and, therefore, less able to finance a medical education. Some parents, disadvantaged themselves, may not know how to guide their offspring to professional careers. Black, American Indian, and Hispanic young people are less likely to graduate from college than their white peers. And for those who do go beyond college, there are tempting opportunities in business or law.

Jacob Dunlap, a participant in UMD's Minority High School Student Apprentice Program

Even when minority students are interested in medical training, too often they are handicapped by educations that leave them ill-prepared to compete in college science classes. (It is no coincidence that the three minorities also are underrepresented in engineering.) And as medical students, some minority students find that professional education designed by white men sometimes is insensitive to cultural differences. Minority role models are scarce—only 3 percent of the medical school faculty in the United States belongs to one of the three underrepresented groups. Finally, medical students are more likely to get into academic difficulty or drop out than are their majority peers.

Simply stated, recruiting minority students into health careers is a complex social problem that medical schools cannot solve alone, educators say.

"Medical schools legitimately feel that they are at the end of the pipeline," Nickens said. "They are not in charge of the entire pipeline, and they feel that many other parts of society should take responsibility."

But American society seemed to back away from social activism during the 1980s, when even some federal agencies cut their support of equal opportunity programs. Nickens proposes that medical schools respond to that difficulty by assuming a leadership role in the movement for equity.

"We can't wait for the national government to decide that it is a priority for them again," he said.

Many medical schools, for their part, are intervening in different parts of the pipeline with programs aimed at both short-term and long-range treatments for the problems of recruiting minority students and retaining them so that they graduate.

"We recognize that there aren't enough students of color in the pipeline, so we attempt to broaden the pool of applicants," said William Hodapp, director of the university's Health Sciences Minority Program. "We know there is a good supply of students who have the potential, but for one reason or another are not demonstrating that potential."

The nation's elementary and secondary schools, both public and private, may be partially responsible. A disproportionately high number of minority students are "tracked" into low-ability math and science classes, according to a recent Rand Corporation report that was based on a National Science Foundation survey of 1,200 schools. Moreover, minority children typically attend schools where the quality of science teaching, equipment, and curricula are lower, the researchers found.

In a system like that, negative stereotypes are institutionalized, and both teachers and students are programmed to believe that some kids are second-class learners, according to the university's Ellis. "That's a problem that a lot of kids encounter in the early years, and then they get sidetracked," he said. "They run into a subtle form of racism."

Pamela Henderson and Chete Nwanze, now college freshmen, participated in the University of Minnesota's Research Apprenticeship Program for high school students.

Ivy Shvetzoff, a participant in UMD's Ni-Shou-Gabawag Program

The grant-funded "feeder" programs across the country are aimed at counteracting such systems. Hodapp's staff ferrets out promising minority youngsters beginning in the eighth grade, steering them toward science and math classes that will prepare them for college. The program also offers high school students eight-week summer "apprenticeships" through which they can participate in university-level laboratory research.

When minority students enroll in the university, they have access to enrichment programs that help them with chemistry, calculus, and physics. When accepted into the medical school, students may take a supplemental course in biochemistry. The program also offers seven scholarships each year for a commercial review course for Part I of the national board exams.

UMD's four recruitment programs—such as the Ni-Shou-Gabawag Program, which exposes freshman and sophomore American Indian students to biomedical research—have had a major impact on UMD's recruitment of American Indian students, Hill said.

The feeder programs are a long-range solution because a student recruited in the eighth grade today will not graduate from medical school until the year 2002. "The earlier you go back, support, and reinforce [youngsters], the better your shot is going to be," said James Boulger, program director of UMD's medical school.

State educators are pleased when students involved in the University of Minnesota's feeder programs choose to attend a Minnesota medical school. But Hodapp, acknowledging that some students will want the experience of studying in another part of the country, said he sees his program as part of a national network. "We consider it a success if a student goes [to medical school] anywhere," he said.

Some students reach college underprepared, not because they are minorities, but because they come from small towns where schools lack the full college preparatory curriculum. Robinson's mother is a school teacher and her father is an accountant, and her own teachers in Cherry, Minnesota, assumed that all their bright students would go to college. But the young woman found herself at a disadvantage compared with her Harvard classmates because her high school did not offer courses in calculus, foreign languages, or advanced chemistry.

"I had to do a lot of catch-up [in college]," said Robinson. "And I still feel like I'm paying for it."

Robinson also is a student who, despite her ambitions, did not know the variety of educational opportunities available to minorities. She had planned to go to UMD until she took the Preliminary Scholastic Aptitude Test and found herself being courted by 2,000 colleges across the country, including schools she had never thought of applying to, such as Harvard and Yale.

She went to Harvard because it used two strategies educators recognize as very effective: It sent a recruiter to her high school for a personal interview, and it offered a scholarship.

"A letter I can throw away," she said. "But a person I can't ignore."

And it was a scholarship that lured her back to the University of Minnesota Medical School.

> "We're not trying to cure the world's ills; we're trying to get more role models into the community."
>
> *–William Hodapp*

But minority scholarships became controversial in mid-December, when a federal Department of Education official announced that "race-exclusive" scholarships are illegal. University and Mayo officials are reviewing their scholarship programs as this issue of *Minnesota Medicine* goes to press.

The university expects to be largely unaffected by the ruling because most of its minority scholarships include criteria other than race and, thus, would not fall under the policy, Hasselmo told the Board of Regents at its December meeting.

Scholarships are an important recruiting tool, educators says, because minority families tend to be less affluent than others. In 1988, half the white medical school applicants came from families with incomes of at least $30,000 per year, while only one-third of the underrepresented minorities had such family incomes, according to the AAMC. Only 3 percent of the white families had incomes below $15,000, compared with 17 percent of the American Indian families.

The skyrocketing cost of a medical education influences student choices, officials say, and wooing them with scholarships only makes sense.

At the University of Minnesota, the first year of medical school now costs a resident of another state $22,000 in tuition and another $11,000 for books and living expenses. A non-resident can expect to invest $113,000 in acquiring the M.D., compared with $77,000 for a Minnesota resident.

Nationwide, eight out of 10 minority medical students have scholarships, compared with one-half of all medical students, according to the AAMC. Minority students also graduate from medical school with debts almost $6,000 higher than the average medical graduate debt—$42,374 in 1989.

Mayo Medical School, where resident tuition is $8,200 per year, now is using full scholarships to recruit minority students. The money comes from the Mayo Medical Foundation and other donors, and officials say the need-based scholarships can be offered to as many minority students as the school can recruit. "We've been very fortunate," said Gerald Peterson, M.D., Mayo's associate dean.

University officials are openly envious of such good fortune, and they insist that having 10 scholarships to offer each year instead of two would make the university more competitive and increase minority enrollment.

Students who have received scholarships agree that they can make all the difference. N. Judge King III grew up in suburban St. Paul and received his B.S. from Brown University. King, who is black, was attracted to medical education at Columbia or Yale, but he also was concerned about going heavily into debt and knew the University of Minnesota's reputation as a very good school. He chose the university after it offered him a scholarship that will enable him to graduate almost debt-free.

"If Minnesota had not come through and given me an incentive, I would not be here," King said. "Now I'm glad I did come back, because the quality of teaching here is top-notch."

King is the sort of student medical schools fight over. But not all minority applicants have his credentials, and some educators argue that admissions committees are more choosy than they need to be when selecting the students who make up 11 percent of the national student body.

It's not easy for a minority student to be accepted into medical school these days. In the United States last year, the acceptance rate for all students was 63 percent, but only 49 percent for the underrepresented minorities.

When looking for students, it is only natural that all medical schools want stellar minority applicants, but there aren't enough of them to go around, says Hodapp.

"Those students are zingers; they're going to make it through [medical school] regardless," he said, adding that admissions committees would do well to develop more enthusiasm for minority applicants whose chances for success are not quite so obvious.

Minority applicants tend to have slightly lower MCAT scores than do their peers, and educators spill a lot of ink debating whether they should find better ways—so-called qualitative measures—of predicting who is destined to be a good M.D.

Minnesota medical school officials insist they do not have a separate set of standards for minority applicants. But they also say they take the MCAT differential into account, recognizing that the test may be an inaccurate predictor of success and may even have some cultural bias. "Sometimes, if the MCAT is not as high [on a minority student's application], we are pretty forgiving about that," said Mayo's Peterson.

UMD's Hill, a past president of the Association of American Indian Physicians, would prefer a step beyond forgiveness. He recommends that admissions committees look very carefully at American Indian applicants and go beyond the numbers, seeking students with particular talents or goals.

Shannon Ament, a Ni-Shou-Gabawag student at UMD

"Medical school should not be a reward system for good grades and scoring high on the MCAT," said Hill. "The question should be, 'What is this person going to contribute to medicine?'"

There are plenty of opportunities for minority contributions, the AAMC's Nickens points out. The minority perspective is needed not only in medicine, but also in public health, management, public policy, and research, he said, because "people do things that flow from their world view."

Some minority applicants may be overlooked by admissions committees because their accomplishments are unconventional, Hodapp believes. "We're trying to convince committees to look at leaders in the community, even if it's leadership in a gang," he said.

Not surprisingly, Minnesota's medical schools do not seem to receive a lot of applications from the alumni of inner-city gangs, regardless of race or ethnicity. Like white medical students, those from minority groups tend to come from middle- or upper-middle-class families who foster their children's career goals.

Policymakers who keep tabs on medical schools are interested in more than just admissions, however; they also cast a stern eye on retention rates, because minority students as a group are more prone to academic troubles. In order to keep attrition rates low, many medical schools allow students to repeat courses. But while only 2 percent of medical students repeat courses, minorities account for almost 97 percent of the repeaters in first-year classes, according the August 15, 1990, special education issue of the *Journal of the American Medical Association.*

While repeating may not have an enduring stigma, it can interfere with a student's financial aid, whether scholarship or loan.

Today there is an emphasis on helping minority students survive that was inspired by lessons learned when affirmative action was a new idea in the late 1960s and early 1970s—years when some mistakes were made, educators concede. Some minority students—inadequately prepared and given no help—failed in medical school.

UMD's James Bougler believes that medical schools are more enlightened now, choosing students carefully and giving them academic help when necessary. "You don't bring people in to throw them out," he said. "If it takes more assistance on the part of the faculty, so be it."

In some medical schools, such as the University of Minnesota, student tutors are available to help their peers.

Social factors, more than academic credentials, affect the progress of some minority students, said Hill, who cited a study of American Indian students at the University of North Dakota. "The GPA and MCAT do not predict success," he said. "Personal and family problems cause them to drop out."

Or, as Boulger observes, the students find that their sense of duty to family conflicts with their academic responsibilities. "Medical school is rule-bound and lock step," Boulger said. But UMD has had times when it was challenged to be more flexible.

He recalls the case of an American Indian woman who simply announced one day that she would be gone for a month because her family needed her. "We worked out a home tutorial program, her classmates helped her when she came back, and she stayed on track," Boulger said. Some time later, the school instituted the same contingency plan when a majority student broke a leg and was bedridden for three weeks.

Flexibility needs to be built into medical school pathways, according to UMD's Hill, who believes it may be unrealistic to expect some American Indian students to go straight through medical school without any interruptions, such as attending to the needs of their disadvantaged relatives. "The medical student may be one of the few highly functional people in the family; he or she may be the person who takes care of things," Hill said.

Students from other minority groups also can be prone to role conflict, especially when an immigrant family must adapt to both English and the American culture, with the college-bound youngster serving as liaison between old and new. While Asians in general are not underrepresented in American medicine, some Southeast Asian refugee groups are, such as Vietnamese, Lao, and Hmong, all of which are included in the recruitment efforts of the university's Health Sciences Minority Program.

Some minority students find they must learn a new set of social skills to fit into the competitive subculture of medical school, where professors expect assertiveness. Many American Indian students, for example, project a noncompetitiveness that looks like shyness, Hill notes.

> "Medical school should not be a reward system for good grades and scoring high on the MCAT."
>
> *–Gerald Hill, M.D.*

"It's impolite to look somebody in the eye, and it's bad manners to show somebody else up; all that can inhibit you in the clinical years," said Hill, an internist.

Some American Indian students have other values that are incompatible with Western medicine, although the probability that that will create problems "depends on how culturally rigid you are," said Hill. Students from some tribes, for example, would feel they should participate in a special ceremony before performing dissections.

Hodapp said part of the challenge in recruiting some minority groups into the health professions is persuading them that by embracing science they do not have to turn their backs on their heritage. "We have to work with them rather than force them into our value sets," Hodapp said. "We have to convince them that they can aspire to a profession while still maintaining one foot in their culture."

Professionals who can combine the knowledge of two cultures may do a better job of caring for some minority patients. It is useful to know, for example, that a Mexican-American may delay seeking medical care because she or he first resorted to a period of prayer or consulted a *curandero*, a practitioner of folk medicine, said Mike Gonzalez-Campoy, a fourth-year Mayo medical student and first-generation immigrant to the United States.

The potential for cultural diversity awaits students, teachers, and the medical community, but not everyone is comfortable in the midst of such complexity. Gonzalez-Campoy, a Macalester College graduate who recently acquired a Ph.D. in physiology, has encountered patients who would not accept him as a valuable member of the health care team. "The truth is that when you are a Hispanic person, people have second thoughts about your capabilities," Gonzalez-Campoy said. "I've been thrown out of patients' rooms when they found out I was Mexican."

Minority medical students also encounter stereotypes or insensitivity among their peers. Robinson, for example, said that she has chided other students for referring to some emergency-room patients as "drunken Indians."

Myra Parker, a member of the Mandan Hidatsa tribe and a senior at St. Paul Academy, remembers the time one of her classes was assigned an essay on the topic: Who discovered America—Christopher Columbus or Leif Ericson? When she suggested the continent was, in fact, discovered by Native American people centuries before the Europeans, she said her teacher told her she was missing the point of the assignment.

It was one of the moments, Parker said, when she felt pressured to repress her own cultural heritage by not challenging the standard textbook images of Native Americans and African-Americans as savages.

"You have to fit into the mold," said Parker, who would like to work for the Public Health Service and practice medicine on a reservation. "Nobody wants to talk about the problems—the issues; they don't want to hear about differences."

Many educators believe that recruitment of minorities will improve as more role models become available from each group. To encourage that process, the National Medical Association and the U.S. Public Health Service are organizing a National Minority Mentor Recruitment Network.

But because the number of minority physicians is so low, AAMC's Nickens suggests that physicians from various backgrounds—not just minorities— volunteer to nurture the ambitions of minority students.

Hodapp and others involved in the effort to broaden the applicant pool have accepted that their efforts will not pay off quickly.

"I tell my staff if they're here to cure the problem of underrepresentation in the health professions, they ought to quit right now," Hodapp said. "What we can do is get a moderate number of students who would not otherwise have gone into medicine and convince them that they have to aspire. ...We're not trying to cure the world's ills; we're trying to get more role models into the community." MM

Delores Lutz is a free-lance writer living in Minneapolis. Photographs courtesy of the University of Minnesota-Twin Cities and the University of Minnesota-Duluth.

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3. Chaterjee SN: Use of GOR-TEX grafts as vascular access procedure for chronic hemodialysis. Abstract of a paper submitted to the European Society for Artificial Organs Eighth Annual Meeting, Copenhagen, August, 1981.
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Transvaginal Versus Transabdominal Sonography in Patients Suspected of Having Ectopic Pregnancy

Frederick Gramith, M.D., Steven Sirr, M.D., Jeremy Hollerman, M.D., and Linda Hawks, R.D.M.S.

ABSTRACT

To determine the value of transvaginal sonography in the evaluation of women with suspected ectopic pregnancy, we retrospectively studied 47 pregnant patients in whom both conventional transabdominal sonography (TAS) and transvaginal sonography (TVS) had been performed. Each patient had been given a standard TAS examination with the bladder moderately distended. After voiding, a TVS examination was performed. TAS and TVS were compared for their ability to reveal specific sonographic findings, including the double decidual sac sign, yolk sac, embryonic pole, and embryonic heart activity. Results indicate that the important sonographic findings of early pregnancy are more likely to be seen transvaginally than transabdominally. In 23% of the patients, only TVS provided the findings for diagnosis of the location and status of the pregnancy. In another 22%, the information gathered through TVS allowed increased confidence in the diagnostic accuracy of the TAS findings by providing additional findings. Therefore, in 45% of the cases, TVS influenced clinical decision-making. In no case was TVS less informative than TAS. These results support the claim that TVS contributes to diagnostic accuracy in early pregnancy. TVS should usually be used in conjunction with, and not as a substitute for, TAS. TVS is best used when TAS is not conclusive, or when immediate confirmation of an intrauterine pregnancy is desired.

Radiologists and obstetricians are recognizing transvaginal sonography as an important new imaging modality for the female pelvis. In 1984 and 1985, Schwimer and Lebovic described this new technique as useful for detecting and monitoring ovarian follicles in infertile women.[1,2] With the increasing availability of transvaginal probes and greater acceptance of the transvaginal route for pelvic sonography, new clinical applications for transvaginal sonography (TVS) have emerged.[3,4] Evaluation of complicated early pregnancy appears to be a particularly useful application of this technique. Our experience, as well as others',[5,6] suggests that TVS can identify ectopic pregnancy and early intrauterine pregnancy more reliably than transabdominal sonography (TAS). This study was performed to determine the usefulness of TVS in the evaluation of women with suspected ectopic pregnancy and to compare the information obtained by TAS with the information obtained by TVS in our patient population.

Materials and Methods

Our study group consisted of a subset of the patients referred to us for pelvic sonography to rule out ectopic pregnancy during a 10-month period (March through December 1988). The 47 patients in the study group had both transabdominal and transvaginal pelvic ultrasound exams because of indefinite findings on the transabdominal exam, and had a positive pregnancy test by either urine or serum method. Women with intrauterine or extrauterine (ectopic) pregnancy with a beating embryonic heart visible on transabdominal sonography were excluded from the study group, as these transabdominal findings were considered definitive. Therefore, the study group consisted of patients with a positive pregnancy test and inconclusive findings on transabdominal sonography. Women with negative pregnancy tests were excluded from the study. In most cases, serum beta-HCG results were not known at the time of sonography.

Transabdominal sonograms were performed with commercially available, real-time systems (3.5 and 5.0 MHz) on patients with moderately distended bladders. After voiding, TVS was then performed using a 5 MHz sector probe (Acuson model 128, Mountain View, California). A coupling gel was placed on the vaginal transducer, and it was then covered with a condom. In most cases, the patients inserted the vaginal transducer themselves. In all cases, the sonographer knew the results of the transabdominal examination when doing the transvaginal examination.

Sonographic findings were recorded on film and videotape, which were reviewed by three radiologists. At the completion of the study, the information obtained transabdominally was compared with the information obtained from TVS.

Clinical outcomes were determined from chart review. These were categorized as normal intrauterine pregnancy, ectopic pregnancy, or abnormal intrauterine pregnancy (missed abortion, blighted ovum, recently completed spontaneous abortion, incomplete abortion, or subsequent spontaneous abortion). Normal intrauterine pregnancies showed normal growth on subsequent sonography or clinical evaluation. All ectopic pregnancies were surgically and pathologically proven. Abnormal intrauterine pregnancies

Table 1

Comparison of transvaginal sonography result with transabdominal sonography result and clinical outcome

Transvaginal Result	Clinical Outcome Living IUP[1]	Ectopic Pregnancy	Abnormal IUP	Total
Definite diagnosis[2]	4	3	4	11
Increased confidence[3]	8	2	0	10
Same information	5	11	10	26
Less information	0	0	0	0
Number of patients	17	16	14	47

[1] IUP=intrauterine pregnancy.

[2] Visible presence of embryonic heart motion allowed definite diagnosis of intrauterine or ectopic location of the pregnancy.

[3] More sonographic findings seen transvaginally than transabdominally. Increased diagnostic confidence in differentiation of intrauterine versus ectopic pregnancy, or normal versus abnormal intrauterine pregnancy, than would have been possible based on the transabdominal sonographic findings alone.

were diagnosed by failure of normal growth on subsequent sonography or by clinical evaluation, supported by decreasing serial serum HCG levels.

Results

The results of the transabdominal and transvaginal ultrasound examinations are listed in Tables 1 and 2. Of the 47 patients studied, 17 had a normal intrauterine pregnancy, 16 had an ectopic pregnancy, and 14 had an abnormal intrauterine pregnancy by clinical follow-up (Table 1).

For this study, a definite diagnosis of intrauterine or ectopic embryo is defined as the visible presence of embryonic heart motion.[3,7] Increased confidence in the sonographic diagnosis is defined as a greater number of significant sonographic findings on TVS compared with TAS (Table 2).

Among the 17 patients with a normal intrauterine pregnancy, transvaginal sonography provided additional information not available on transabdominal sonography in 12 cases (70%), the same information in five cases (30%), and less information in no cases. Of the 12 cases in which TVS provided additional information compared with TAS, in four patients (23%), the only findings allowing diagnosis of normal intrauterine pregnancy were obtained with TVS, and in eight patients (47%), increased diagnostic confidence after TVS occurred due to additional findings. In patients with normal intrauterine pregnancy, TVS (compared with TAS) provided the following additional findings: a double decidual sac sign was seen in three additional cases, a yolk sac was shown in eight additional cases (Figure 1), and an embryo with heart motion was seen in four additional cases (Figure 2). In one patient, an embryo was seen transabdominally, but embryonic heart motion was noted only on the transvaginal sonogram. This is classified as a case with increased diagnostic confidence. The 17 patients with proven intrauterine pregnancies had 20 sets of sonographic exams (transabdominal sonography and transvaginal sonography) before final diagnosis was made (Table 2). One patient had three sets of sonographic exams, and another patient had two sets. Four patients had sonographic exams showing normal anatomy with no evidence of intrauterine or extrauterine pregnancy by both transabdominal and transvaginal methods (normal size and appearance of the uterus with a normal endometrial stripe, normal ovaries, and no mass or free fluid). Two additional patients initially had these findings but were found on subsequent exams to have sonographic findings of intrauterine or extrauterine pregnancy.

In the 16 patients with proven ectopic pregnancy, TVS provided additional information when compared with TAS in five cases (31%), similar information in 11 cases (69%), and less information in no cases. A definite diagnosis of ectopic pregnancy was made by TVS in three patients (19%), and increased confidence in this diagnosis was provided by TVS in two patients (12%). In patients with ectopic pregnancy, TVS provided the following additional sonographic findings compared with TAS (Table 2): increased cul-de-sac fluid was seen in one additional case, one additional adnexal gestational sac was seen, two yolk sacs within adnexal sacs were seen, and three embryos with heart motion were seen (Figure 3). The adnexal gestational sacs were round cystic collections of fluid surrounded by a thick echogenic ring. In one patient, a transabdominal sonogram showing normal nonpregnant findings was immediately followed by TVS revealing an adnexal gestational sac (ectopic pregnancy) containing a living embryo, confirmed at surgery (Figure 4).

In the 14 cases of abnormal intrauterine pregnancy, TVS provided additional information compared with TAS in four cases (28%). In these cases, TAS findings of a possible intrauterine gestational sac without definite visible embryo or heart motion were shown on TVS to be a visible embryo without visible heart motion, suggesting missed abortion. In almost all cases, a living embryo or fetus large enough to be seen on ultrasound examination will have visible cardiac activity. The absence of such activity in a well-defined embryo strongly suggests embryonic death. No additional significant information was obtained by TVS in the remaining 10 patients (82%) with abnormal intrauterine pregnancy. An abnormal configuration of the gestational sac was identified equally well by both imaging methods.

Table 2

Sonographic findings in normal intrauterine, ectopic, and abnormal intrauterine pregnancies

	Number of Exams (n=51)[1]	
Sonographic Finding	**Transabdominal Sonography**	**Transvaginal Sonography**
Normal Intrauterine Pregnancy (n=20 exams)		
Double decidual sac sign	11	14
Yolk sac	3	11
Embryo	1	5
Embryonic heart motion	0	4
Nonpregnant sonographic findings[2]	9	6
Ectopic pregnancy (n=16 exams)		
Increased fluid in cul-de-sac	2	3
Adnexal mass[3]	5	5
Adnexal sac[4]	3	4
Yolk sac in adnexal sac	0	2
Embryo in adnexal sac	0	3
Embryonic heart motion	0	3
Normal sonographic findings	9	8
Abnormal intrauterine pregnancy (n=15 exams)		
Abnormal gestational sac	11	11
Embryo without heart motion	2	6
Normal sonographic findings	3	3

[1] Fifty-one sets of transabdominal and transvaginal examinations were done on 47 patients.
[2] Normal-appearing uterus with a normal endometrial stripe, normal adnexa, no evidence of intrauterine or ectopic pregnancy.
[3] Solid or mixed echogenic.
[4] A cystic structure with an echogenic ring typical of a gestational sac, but present in the adnexa.

Discussion

When transvaginal sonography is compared with transabdominal sonography, normal intrauterine embryonic structures or findings of abnormal intrauterine pregnancy can be detected one week earlier by TVS.[8] We found that TVS added approximately one significant sonographic finding in every two patients studied, as compared with TAS. We occasionally detected 2-to-3 mm living embryos using the transvaginal technique. This corresponds to embryos less than five and one-half weeks menstrual age. The ability to detect embryonic heart motion at this early stage has considerable practical value. The definite diagnosis of a living intrauterine embryo makes an ectopic pregnancy very unlikely. Only rarely do they coexist (1:8,000 to 1:40,000 of all intrauterine pregnancies).[9] In other words, a fairly effective way to rule out ectopic pregnancy, although not perfect, is by diagnosing an intrauterine pregnancy. There should be a high index of suspicion for coexisting intrauterine and ectopic pregnancy in any patient with an intrauterine pregnancy diagnosed by sonography who also has a visible adnexal mass or increased free pelvic fluid, unusual pain, orthostasis or hypotension, a history of previous ectopic pregnancy, or severe pelvic inflammatory disease. Appropriate work-up and follow-up is necessary.

One-half of the surgically proven ectopic pregnancies in this study had nonpregnant sonographic findings without evidence of pregnancy, mass, or free fluid by either transabdominal or transvaginal sonography. In the setting of a positive pregnancy test, normal nonpregnant pelvic ultrasound findings are an abnormal result, because approximately 50% of early ectopic pregnancies are not visible by ultrasound, a finding substantiated in this study. In the setting of a positive pregnancy test and no visible intrauterine pregnancy, an ectopic pregnancy exists until proved otherwise. A follow-up ultrasound examination, serial serum HCG measurements, or laparoscopy are all useful to differentiate ectopic pregnancy from intrauterine pregnancy in patients without diagnostic sonographic findings. TVS was able to detect the beating heart of a living ectopic pregnancy in only 19% of the cases of ectopic pregnancy. However, other sonographic findings, such as adnexal mass or increased fluid in the cul-de-sac, provided the basis for strong suspicion of ectopic pregnancy in many of the patients with ectopic pregnancy and abnormal sonographic findings. TVS in experienced hands allows perception of these findings more frequently than does TAS. Also, by more accurately diagnosing living intrauterine pregnancy in patients suspected of having an ectopic pregnancy, transvaginal sonography can greatly decrease the number of patients suspected of having ectopic pregnancy after imaging.

The advantages of TVS over TAS include improved spatial resolution. Higher frequency transducers than those used transabdominally can be used because the transducer is in the vagina, closer to the pelvic organs. A higher frequency transducer has better spatial resolution but less penetration. The higher frequency improves image quality for structures within the useful range of the transducer. This is especially important when obesity, bowel gas, adhesions, or inability to maintain bladder dis-

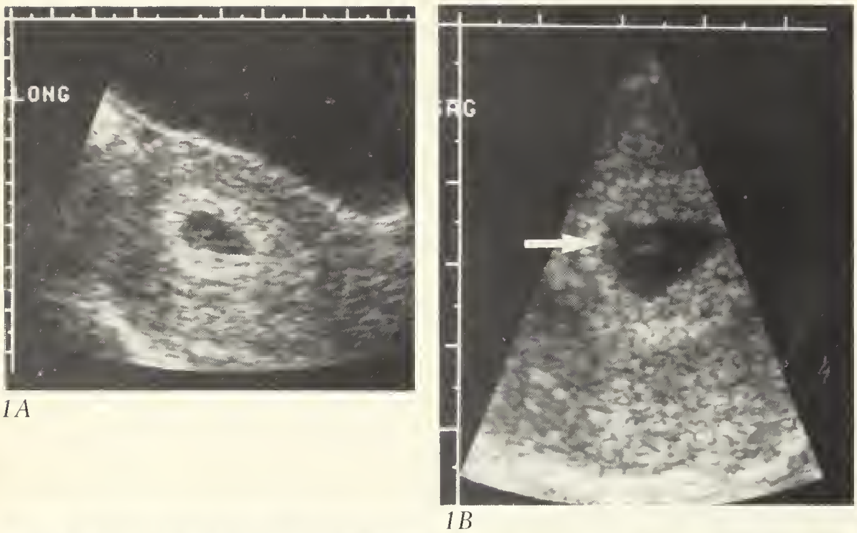


FIGURE 1– Normal intrauterine pregnancy.

A. Longitudinal (sagittal) transabdominal sonogram shows a double-decidual sac sign without internal echoes.

B. Transvaginal sonogram done immediately following transabdominal sonography reveals a yolk sac (arrow).

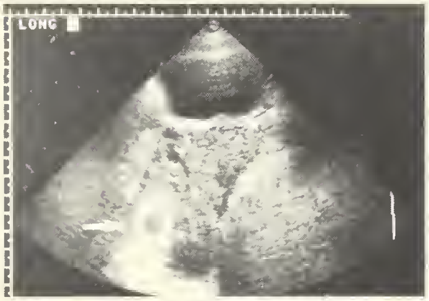
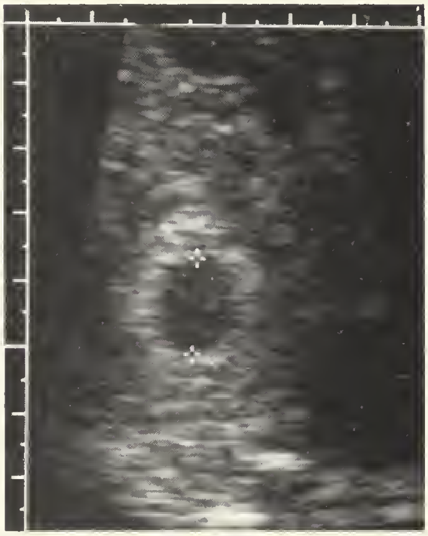
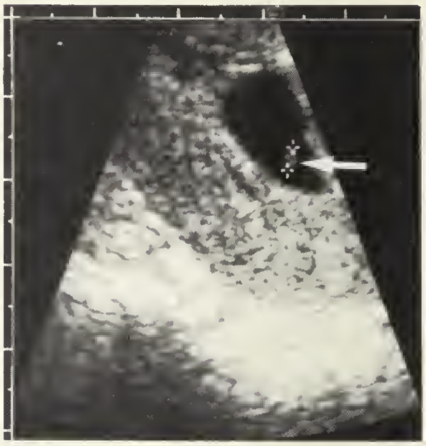


FIGURE 2 – Normal intrauterine pregnancy.

2A. Longitudinal transabdominal sonogram shows a retroflexed uterus containing a gestational sac (arrow).



2B. High-resolution transabdominal sonogram shows no identifiable contents within the gestational sac.



2C. Transvaginal sonogram reveals a 3 mm embryo with heart motion visible in real time (arrow).

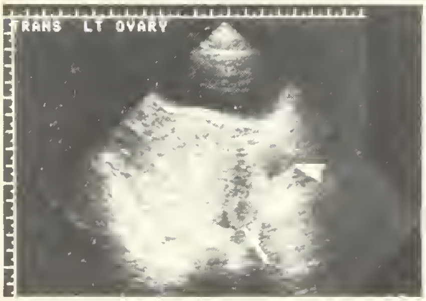
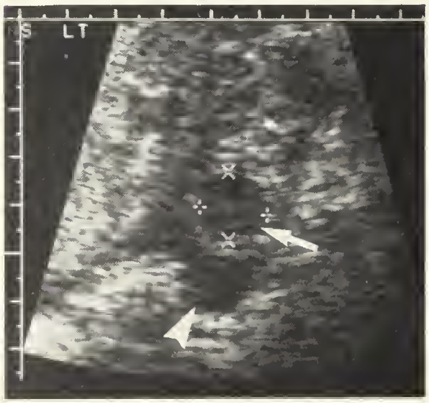
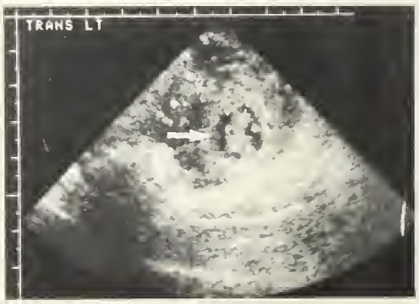


FIGURE 3 – Ectopic gestation.

3A. Transverse transabdominal sonogram shows mild uterine enlargement with a small amount of fluid in cul-de-sac. Left ovary (arrowhead) outlined with calipers. Adnexal mass that could be an extra-uterine gestational sac (arrow) of ectopic pregnancy is seen.



3B. High-resolution transabdominal view shows extra-uterine gestational sac (arrow) outlined by calipers. No significant internal echoes in the sac are seen. Note increased fluid volume in the cul-de-sac (arrowhead).



3C. Transvaginal sonogram of the extra uterine sac reveals an ectopic gestation with heart motion (arrow) allowing definite diagnosis of ectopic pregnancy.

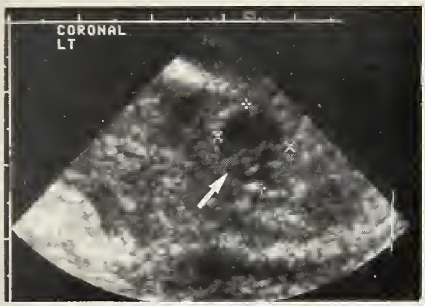


FIGURE 4 – Ectopic gestation (arrow) with heart motion revealed only on transvaginal sonography after a normal transabdominal examination.

tention limit the effectiveness of transabdominal imaging. We found that transabdominal sonograms on patients with retroflexed uteri were especially difficult to interpret, and many additional sonographic findings were found on transvaginal exams in these patients. The patient need not fill her bladder, or otherwise prepare for TVS, and patients and physicians report less patient discomfort.[3]

In this study, no sonographic findings found on TAS were missed on TVS. There are reports in the literature of masses seen on TAS not seen on TVS, usually because of the limited depth visualized with the typical 5 MHz vaginal transducer. Ovaries or masses that are too far away from the vaginal transducer may go undetected.[3,10] Correct interpretation of TVS requires experience in imaging pelvic anatomy in coronal and sagittal planes, in addition to the usual knowledge required for TAS. Coronal imaging cannot be done transabdominally.

Controversy remains as to whether or not transvaginal sonography should be a substitute for transabdominal sonography. Dashefsky believes that TVS can be used alone in most patients with suspected ectopic pregnancy.[11] Tessler says that TVS can replace TAS for initial routine sonography.[10] Others believe that TVS is an adjunct to TAS.[3,5] We believe that TVS supplements TAS. In cases where the transabdominal findings are indefinite, both exams should be done. An overall understanding of a patient's pelvic anatomy and pathology was often best revealed to us by TAS. TVS provided additional essential details but often was not as valuable globally. For emergencies, TVS may be used alone, especially if bladder filling is not possible.

Ultrasound findings that allow accurate diagnosis of normal intrauterine pregnancy, ectopic pregnancy, and abnormal intrauterine pregnancy are more frequently imaged when TVS is used as an adjunct to TAS, compared with TAS alone. Transvaginal sonography provided more information than transabdominal sonography in a significant number of patients in this study. This additional information was frequently critical for differentiation of ectopic pregnancy from intrauterine pregnancy and for differentiation of normal intrauterine pregnancy from abnormal intrauterine pregnancy. **MM**

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Gerald L. Gorski

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Types of Bonds

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U.S. government agency bonds are issued by various agencies of the government. Some are as secure as Treasury bonds, but others are not. Some agency bonds carry a "moral obligation" to pay, but the government has no direct legal responsibility to make these bonds good. Be sure you understand any risks involved in agency bonds.

The interest paid for government agency bonds may be slightly more than for other government bonds. However, interest may be subject to state and local taxes. The loss of the state and local tax exemption may make these bonds less desirable.

> "The interest and safety of the bond often depend on who is issuing it."

Municipal bonds are issued by state, city, or other government units. Interest is exempt from federal taxes and may also be exempt from state and local taxes if the bondholder lives in the issuing state or city. Some states, including Wisconsin and Iowa, do not grant exemption from state taxes for the ownership of bonds issued within the state. There are a few exceptions to these rules, but these issues are very small.

There are two types of municipal bonds. **General obligation bonds** are backed by the full faith and credit and taxing power of the state or local government. **Revenue bonds** pay interest from revenue generated by a specific project or activity. Due to recent legislation, some municipal bonds may be taxable. Additionally, if you are subject to the Alternative Minimum Tax (AMT), be aware that some municipal bond interest does carry AMT liability. Discuss tax treatment of bond interest with your tax adviser before you invest. Be sure you understand any special provisions the bonds carry before you purchase them.

Corporate bonds are available in one of three types: industrial, financial, or utility bonds. All are issued by corporations, and interest is fully taxable. Corporate bonds are either unsecured obligations of the corporation (debentures) or have specific assets pledged to guarantee repayment.

Collateralized debt obligations are guaranteed by specific corporate assets such as machinery, equipment, or receivables. **Mortgage bonds** are guaranteed by real estate. **Debentures**, the most common type of corporate bond, are guaranteed by the full faith and credit of the issuing corporation.

Junk bonds are usually issued by companies that use a lot of debt to finance their operations. They can be a result of a leveraged buyout or major acquisition by the corporation. Interest paid is usually higher, but the risks are greater. Interest on junk bonds can be in the form of cash or additional securities (payment in kind or PIK). Quality junk bonds are available, but be cautious when evaluating a specific issue. Don't take on more risk than you are comfortable with.

Zero coupon bonds are issued by the U.S. Treasury, municipalities, or corporations. They are sold at a substantial discount from the face value. The interest earned over the term is the difference between the purchase price and its face or maturity value. Even though interest is not paid out, taxes are incurred on the interest as it is earned unless it is a municipal issue. Taxable zero coupon bonds work best in a portfolio that doesn't have to pay taxes on a regular basis (i.e., IRAs or pension or profit-sharing funds). These bonds may have wider fluctuations than regular coupon bonds and provide a greater total return when rates drop. They can be a very effective part of your total return portfolio.

You may want to consider municipal zero coupon bonds issued by the state in which you live. There are no state or federal income taxes, but these bonds are generally more volatile than coupon bonds. Municipal zero coupons are favored by more aggressive investors with a greater tolerance for risk.

Other fixed-income investments

Pooled investment funds have become an alternative to regular bonds. Certain types of debt instruments are pooled, and participations against these pools are sold. Government-guaranteed mortgages issued by GNMA and collateralized mortgage obligations (CMOs) other than GNMAs are two types of pools available.

Banks also have started to combine certain segments of their loan portfolios and sell participations against these loans. This could include car loans, leisure equipment loans, or credit card loans. The interest rates may be higher, but this can be a very volatile investment. The investor is buying the losses as well as the collections. Analyze these investments carefully to be sure that these loans are of sufficient quality to justify making the investment.

Bonds and Your Investment Portfolio

Whether you are investing for the long- or short-term, or have a conservative or risk-oriented strategy, there is likely to be a bond that will fit your needs.

Safety as a primary goal

Protect your principal and interest by investing in U.S. government Treasury bonds, bills, and notes. The government guarantees repayment of your principal at maturity. Buying short-term bonds allows you to respond quickly to changes in rates and market trends.

Government securities offer added flexibility and liquidity through a secondary market. This allows you to sell securities before their maturity. Prices will depend on interest rates at the time of sale. Because most government securities cannot be called before maturity, you are guaranteed the stated amount of interest over the entire term of the investment. Interest earned on U.S. government-issued securities is exempt from state and local taxes; federal taxes will be due as interest is received.

Increased risk=increased returns?

Municipal bonds are issued by state and local governments. Municipals may not be as safe as federal issues but provide added tax benefits, especially for investors in higher tax brackets. Interest earned on municipal bonds is exempt from federal, state, and local taxes (if you live in the state or locality issuing the bonds). Consider your future tax bracket as well as your current tax bracket (for example, if you'll be retiring soon, your tax bracket may decline).

Corporate bonds may be more risky, depending on the corporation issuing them. The investor is, in effect, a creditor of the corporation. Bonds may be callable before maturity, which could result in lower interest received. In addition, interest is fully taxable.

Junk bonds are issued by corporations or municipalities and are rated BB or less. These carry the highest risk but also the highest potential return. Be careful when including them in your portfolio since returns are not guaranteed.

Zero coupon bonds should be included in a tax-deferred retirement fund or in a custodial account for a child under 14 who has annual income under $1,000. They may also be effective in the portfolio of a child over 14 in a low tax bracket. Even though interest is not received over the term, it is taxable. Municipal bonds also are issued in zero form. This type of issue can be attractive to individuals in a high tax bracket who prefer the return certainty of zeros and do not need current income.

Risk inherent in bonds

Three risks have to be considered when developing a bond portfolio: quality (business risk), maturity (time risk), and market (price change/interest rate change risk).

Quality risk refers to the quality of the issuer. The primary method of determining the quality of the bond is through the use of bond ratings systems.

Maturity risk refers to the maturity of the bond. Typically, bonds of longer maturity will fluctuate more widely in value with a given change in interest rates than will bonds of short maturity. Therefore, longer-term bonds may carry more risk.

Market risk refers to the fact that bonds will lose value as interest rates rise and gain value as interest rates drop. While the change in the level of rates is independent of the other factors mentioned, quality of the portfolio and maturity of the portfolio will certainly have an impact on its volatility given a change in rates. Lower-quality bonds and bonds of long maturity will typically pay a higher interest rate at their purchase but will fluctuate more widely as interest rates change.

Portfolio design

There are two primary ways of handling bonds in your portfolio—bond ladder (serial maturity) and total return.

Bond ladder: The idea of the bond ladder is to construct a portfolio that will generate income on a regular basis while being somewhat immune to fluctuations in the bond values (because they will be held to maturity). Once the portfolio is established, the bonds are held until the shortest maturity is reached. At the maturity of this bond, the proceeds of the maturity are reinvested in the next-longest year out at the other end of the maturity spectrum.

This strategy provides a steady stream of income that can be gradually increased by the movement of the maturing proceeds into the longer end of the bond ladder. This is basically done on the general assumption that shorter interest rates are lower than longer interest rates. As the bond investment is made in the longer maturity, the reinvestment is likely to be at a rate equal to, or greater than, the original rate.

If interest rates have risen substantially from the time the ladder was established until the first maturity, then the reinvestment rate is likely to be considerably higher than the rate received on the maturing bond. Even if interest rates have dropped substantially, the reinvestment rate is likely to be at or near the rate on the maturing bond. However, the natural upward sloping of the yield curve would likely result in an increase in income even if rates are generally lower.

Total return: Total return is another strategy that can be employed with bonds. In this strategy, various risks are assumed that are designed to produce appropriate rewards. These risk-assuming strategies can involve purchase of lower-quality bonds and the extension or reduction of the average maturity. For instance, an investor may purchase junk bonds or other similar noninvestment-grade bonds at prices well below the par value, anticipating that these bonds will increase in value and will eventually be paid off at par, resulting in a high rate of return.

Another strategy would be to shorten or lengthen the average maturity in anticipation of a rise or fall in interest rates. If the correct judgment is made and the maturities are lengthened before a major drop in interest rates, substantial return can be earned. Use of highest quality (i.e., U.S. Treasury bonds) is recommended in these cases. They are the most liquid and do not present problems with calls or other types of restrictions on the ability of the bonds to increase in value as interest rates drop.

Bond Ratings as an Indication of Quality

Municipal and corporate bonds are rated by Standard & Poors and/or Moody's rating services. Ratings indicate the long-term safety of the bond based on the type of obligation, the chances of default, and the degree of protection in case of bankruptcy. Ratings range from AAA (most secure) to D. The accompanying table compares the ratings of the two major ratings firms.

The lower the rating, the higher the interest paid. For example, BBB bonds usually yield 2 to 3 percentage points more than AAA bonds. Junk bonds (rated BB or lower) may yield 3 to 5 percentage points or even more than higher-rated bonds.

Table

Bond ratings

S&P		Moody's
AAA	Highest quality	Aaa
AA	High quality	Aa
A	Good quality	A
BBB	Medium quality	Baa
BB	Speculative	Ba
B		
CCC	Highly speculative	B
CC		
C	No interest is being paid; may be in default	Caa
D	Lowest rating	C

Ratings are no indication of market risk. Bond prices will rise and fall based on interest rate levels as well as on the quality assessment of the issuing entity. Even an AAA bond will lose value if rates rise. Remember that ratings may change after the bond is purchased if the credit quality of the issuer changes.

The ratings services continually monitor issuers that subscribe to their rating service, and they are obligated to adjust the rating upward or downward based on the changing credit quality of the issuer.

Government bonds are considered to be credit-risk-free; therefore, their rating is higher than AAA. Government agencies are considered to be of the highest quality, but risks can still vary from agency to agency.

Credit enhancement

More recently, a new set of factors—usually referred to as credit enhancements—has entered into the quality assessment of a bond. For example, an issuer of a municipal or corporate bond might seek a guarantee from a bank or insurance company through the issuance of a letter of credit or other similar guarantee. While this credit enhancement can have value, it must be monitored just as the ratings must be monitored.

Another type of credit enhancement used in municipal bond financing is the use of specialized insurance issued by companies that literally insure the payment of the interest and return of the principal of various municipal bonds. Major insurance agencies include AMBAC and FIGIC. Insurance company guarantees carry AAA ratings. The quality of the insurer must be monitored, especially if the insurer is a smaller company.

Non-rated bonds

Non-rated bonds, issued by both municipalities and corporations, are also available. These are either smaller municipalities or companies that may have good quality characteristics, but, because of the size of the issue or other factors, do not choose to pay a fee to the bond-rating agencies.

In this case, they will typically use a credit enhancement as described above or will issue non-rate obligations and pay a higher interest rate as a less expensive alternative to the rating or the credit enhancement. It is important to monitor them closely.

Life insurance and annuities

Insurance companies invest much of their funds in bonds of varying quality and maturity. The quality of the assets held by the insurance company is an essential determinant of its stability. This quality level also contributes to the company's ability to pay you the death benefit on a life insurance policy and the cash flow for an annuity.

Public attention has recently been focused on two aspects of this issue: junk bonds and problem mortgages. As mentioned above, junk bonds are considered bonds carrying a rating of BB or less by acknowledged bond-rating services such as Standard & Poors and Moody's. Problem mortgages are loans with payments in default or loans that are in foreclosure. They have been the primary cause of the recent and ongoing financial problems in the banking and savings and loan industries and are also affecting the life insurance industry.

It is very important in assessing the safety of your life insurance or annuity contracts to look behind the scenes at the quality of the underlying investment portfolio backing up those contractual promises to pay. Some industry observers have suggested that a reasonable "comfort" level exists when the ratio of junk bonds plus problem mortgages of an insurance company is less than 100 percent of surplus. An insurance company's surplus is generally defined as excess earnings that are retained for future contingencies. MM

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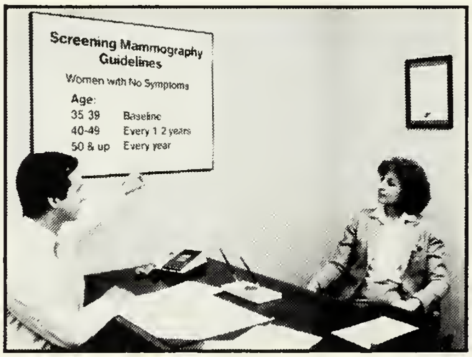

What will you tell her about screening mammography?

Many of your patients will hear about screening mammography through a program launched by the American Cancer Society and the American College of Radiology, and they may come to you with questions. What will you tell them?

We hope you'll encourage them to have a screening mammogram, because that, along with your regular breast examinations and their monthly self examinations, offers the best chance of early detection of breast cancer, a disease which will strike one woman in 10.

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MMA Responds to Access Commission Proposals

Richard B. Tompkins, M.D.

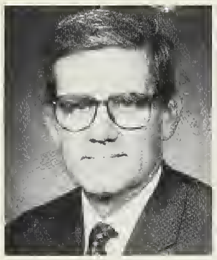
The Minnesota Medical Association commends the Health Care Access Commission for its commitment to providing access to basic medical care for all Minnesotans. Created by the 1989 Minnesota Legislature, the commission faced a challenging task—developing a blueprint for providing health care access for uninsured state residents at a cost not to exceed $150 million in state funds. The commission will be presenting its report to the Legislature when it convenes this month.

As this issue of *Minnesota Medicine* goes to press, the commission has not yet held its final meeting nor adopted its final report. The draft proposals are tentative and could be revised. During the past six months, the MMA has been carefully monitoring the progress of the Health Care Access Commission, reviewing each of its drafts, and preparing responses to its proposals. In October, Andrew J. K. Smith, M.D., chair of the MMA Board of Trustees, testified before the commission regarding several of its draft proposals. Although we found more areas of agreement than disagreement, we strongly oppose some of the commission's draft recommendations.

Objectives MMA Supports

The MMA and the commission agree on the following goals:

- Mandate basic health care coverage for all Minnesota residents;
- Preserve diversity by including multiple providers and multiple payers;
- Provide for consumer choice among plans;
- Use a means-tested premium scale to make coverage affordable for all state residents;
- Continue public program coverage as part of the plan despite premium default;
- Include patient education and promotion of healthy lifestyles;
- Define a basic set of health benefits;
- Require that coverage above the basic level be considered as separate cost items;
- Reform insurance underwriting and rating so as to require community rating, and end restrictions for pre-existing conditions.



> "The MMA opposes the proposal that any physician who accepts state or local public money must accept program patients."

The commission recommends a two-step approach to the implementation of benefits. As a first step, the commission proposes an Intermediate Benefit Set (IBS) that would be largely governed by the amount of state money available. The IBS is seen as a temporary measure to be enacted only until the state can afford to adopt a universal basic benefit set (UBBS). The commission recommends enrolling new applicants in the IBS in July 1992 and moving to the UBBS in July 1995.

The MMA Medical Benefits Task Force, chaired by A. Stuart Hanson, M.D., will respond to the IBS proposal in its report to the MMA Board of Trustees this month. In its report, the task force will define the medical care benefits that it believes should be considered "essential" and should be included in any universal medical benefits set.

Proposals MMA Opposes

Despite our concurrence on these crucial issues, the MMA will have difficulty supporting some of the commission's draft proposals.

- The MMA strongly opposes any prohibitions on balance billing. Inadequate reimbursement for Medicare and Medical Assistance already is creating a shortage of health care providers in rural Minnesota. Some areas of our state rank third and fourth from the bottom in the nation in Medicare reimbursement. Almost three-fourths of Minnesota physicians are unable to cover their overhead expenses with Medical Assistance reimbursement. Balance billing is our only way to compensate for inadequate reimbursement from Medicare and Medical Assistance.

As a fall-back position, the MMA suggests that an adequate, uniform fee schedule, negotiated in good faith, would be a reasonable solution. The components should include the overhead costs of maintaining and equipping a physical site of practice, the salaries of the physicians and staff of the clinic, and a reasonable amount to be reinvested into the clinic's equipment and facilities.

- The commission has recommended that any physician who accepts state or local public money, including reimbursement through a public employee benefit plan, must accept program patients. Important questions remain unanswered, including the nature of any sanctions, the impact on private contractual arrangements, and the status of staff-model health providers such as Group Health, Inc., and the Mayo Clinic. The MMA opposes this new mandate as excessively broad and likely to exacerbate recruitment difficulties, particularly in rural areas of the state. If reimbursement is adequate, mandatory physician participation would not be necessary.

> "It is important to remember that the Health Care Access Commission has no power to enact a program."

- The commission is recommending the Legislature consider one or more of several tax options to raise funds to support the new program. Of these, the MMA would strongly oppose a recommendation to finance the new program in part through a sales tax on patient services. The MMA believes such a tax would disproportionately affect a narrow population—the sick and vulnerable. In light of the commission's proposals to limit the range of supplemental coverage and to eliminate incentives to employers to maintain coverage, this sales tax on health care would hit Minnesotans who have exhausted the intermediate basic benefit set. In addition to being unfair, the "sick" tax would be difficult to collect and administer because most physicians use several different methods of payment, including capitation, discounting, fee-for-service, government programs, and hybrids. Administering a sales tax when the definition of a "sale" is unclear would add to the administrative complexity of the health care system and contradict the commission's aim of simplifying the bureaucracy. A broad-based tax that requires everyone to share the burden of expanding access to Minnesota's health care system may incite more political opposition than a tax on the sick, but it would be sound public policy, reflecting the fact that expanding access to health care is a societal problem requiring a societal solution.

After considering MMA's objections, the commission re-ordered its priorities on tax sources, listing as its first recommendation an increase in the progressive general income tax, followed by a health sales tax, an intangible property tax, a payroll tax, and "sin" taxes on tobacco and alcohol.

- The MMA opposes a proposal to create state-sponsored clinics or networks in areas with insufficient managed care providers as unrealistic and unnecessary.
- The MMA questions the consolidation of administration of all state health programs into a new state agency, which would expand the state bureaucracy and could increase administrative costs. The commission has recommended that a new agency be established as a bureau within the Department of Human Services (DHS) in July 1991. The current DHS system would be expanded to provide the program benefit set to those applying for coverage under the new state plan. Then in July 1993, the new agency would become independent of the DHS and would incorporate the Children's Health Plan, General Assistance Medical Care, and the Minnesota Comprehensive Health Association.
- The MMA also believes that an initial focus on centralized data collection and analysis is premature. Many organizations, including the MMA, already are engaged in voluntary efforts to gather and analyze such data. The commission recommends that planning and preparations for the new agency's data and research initiatives take place from July 1, 1991, to June 30, 1992, with implementation beginning on July 1, 1992, and that the new agency make public initial findings of the data and research initiatives on January 1, 1994.

The MMA feels the goals of data collection and analysis need to be clearly defined. Then the resources (human and financial) can be estimated before a decision is made about whether to proceed. The funds to support this activity would come from allocations separate from those used to support beneficiary premiums.

It is important to remember that the Health Care Access Commission has no power to enact a program. The 1991 Legislature will consider each of the commission's proposals separately and on its own merits. The MMA Committee on Legislation and the MMA staff will continue to be active participants as the report moves into the legislative arena. MM

MEDICINE

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People and Places Making Medical News

People

John Perry Jr. Dies at 67

John F. Perry Jr., M.D., former chief of surgery at St. Paul-Ramsey Medical Center, died of colon cancer October 30.

After 28 years as chief of surgery, Perry resigned in July because of illness. He is known for helping to establish St. Paul-Ramsey as a first-rate trauma center.

Perry was also a professor of surgery at the University of Minnesota Medical School for 25 years and in 1989 received the Owen H. Wangensteen Award for Excellence in Teaching.

Donald E. Stewart Dies at 79

Donald E. Stewart, M.D., director of the Cancer Detection Center at the University of Minnesota for the past two years, died December 4 after suffering a stroke November 26. Stewart had been involved with the cancer center's early-detection efforts for several years.

Medical Education Award

James H. Moller, M.D., professor of pediatrics at the University of Minnesota School of Medicine, in October received the Medical Education Lay Award at the American Academy of Pediatrics' 59th Annual Meeting in Boston.

Moller received the award for his participation in the American Heart Association (AHA) Schoolsite Program. He has been a volunteer for the AHA for more than 15 years and has guided the development of the Schoolsite Program, resulting in cardiovascular health curriculum for children in kindergarten through high school. The program has reached an estimated 11 million children.

Ellis Island Medal of Honor

Joseph C. Kiser, M.D., chief cardiovascular surgeon of the Children's Heart Fund (CHF), received an Ellis Island Medal of Honor December 9 in New York City along with 94 other recipients, including President Bush and former Presidents Reagan, Carter, Ford, and Nixon.

Kiser was honored for his humanitarian contributions to the hundreds of children who have benefited from the work of the CHF, an independent, international, nonprofit medical charity and facility.

The Medals of Honor recognize contributions American citizens from diverse ethnic groups have made to America. Bess Maragos, a CHF board member, nominated Kiser with support from the Greek community and AHEPA, a national Greek men's organization. Kiser received the award for his outstanding contributions to needy children suffering from cardiac disease, particularly the 100 Greek children who have benefited from CHF's care.

'U' Regent Grahek Resigns

J.P. (Jack) Grahek, M.D., a retired family physician and former mayor of Ely, Minnesota, resigned from the University of Minnesota Board of Regents in December. He was elected to the Board of Regents in 1987 to represent the Eighth Congressional District in northeastern Minnesota.

Grahek practiced medicine for 40 years until his retirement in 1980 and was mayor of Ely from 1956 to 1980 and 1986 to 1988. He served on former Gov. Rudy Perpich's postsecondary education commission in 1983.

In his resignation letter to Perpich, Grahek said, "The time has come for me to spend more time with my family and friends."

MCHA Executive Director

The Minnesota Comprehensive Health Association (MCHA) elected Lynn R. Gruber in November to serve as the organization's first executive director.

Gruber joined MCHA after serving as vice president for managed care research at InterStudy, a nationally recognized health care research and policy development firm located in Excelsior, Minnesota. Before joining InterStudy, she was director of medical delivery services and provider programs at SHARE Health Plan. She has also served as assistant executive vice president of the Hennepin County Medical Society and executive director of the MMA's Minnesota Commission on Professional Liability, which conducted a study on medical malpractice.

MCHA is a health insurance risk pool for Minnesotans who are considered uninsurable by private insurers because of existing medical conditions. More than 24,000 Minnesotans currently receive health insurance through MCHA, which the Minnesota Legislature established in 1976.

Abbott Nursing VP

Julianne Morath is the new vice president of nursing at Abbott Northwestern Hospital in Minneapolis. Her acceptance follows a national search lasting nearly one year.

Most recently, Morath was vice president of patient care and chief of nursing at Roger Williams General Hospital in Providence, Rhode Island.

NCADD Director

Jay Hauge, executive director of St. Mary's Chemical Dependency Services at Riverside Medical

Center, has been appointed to the board of directors of the National Council on Alcoholism and Drug Dependence.

The nonprofit organization combats alcoholism and other drug addictions and related problems through education, prevention, and public policy advocacy.

Hauge has been with the St. Mary's program since 1970 and was named executive director in 1987.

Medical Foundation Head

James R. Spicola, president and chief operating officer of Minnesota-based Cargill Inc., was elected president of the Minnesota Medical Foundation in November.

Spicola, who has been on the foundation board for six years, said he expects to do a lot of fund-raising in his new position. The foundation, which raises and distributes funds for medical research at the university's medical schools in the Twin Cities and Duluth, plans to raise $18 million this year for research, education, and scholarships and an additional $30 million over two to three years to establish the Minnesota Cancer Center. The center, in the planning stages for about one year, will coordinate cancer research from around the world.

Kevorkian Murder Charge Dismissed

A Michigan judge in December threw out a first-degree murder charge against Jack Kevorkian, M.D., who incited national debate in June by aiding the suicide of 54-year-old Janet Adkins of Portland, Oregon.

Judge Gerald McNally ruled that prosecutors had failed to prove Kevorkian had broken any law in helping Janet Adkins kill herself.

Kevorkian connected Adkins to an intravenous solution that stopped her heart when she activated the switch. Adkins had been diagnosed with Alzheimer's disease in July 1989.

McNally called on Michigan's Legislature to address the issue because the state has no specific law against assisting suicide.

Stormie Jones Dies at 13

Stormie Jones, who received the world's first heart-liver transplant at age 6, died November 11. The 13-year-old Texan was flown from Dallas to Pittsburgh and taken to Children's Hospital late November 10 after complaining of flu-like symptoms. Her condition deteriorated throughout the morning, and she died after suffering a heart attack.

Stormie, who had the historic heart-liver transplant in February 1984, was born with a genetic condition that raised her cholesterol to 10 times the normal level.

Places

Rural Health Grant to 'U'

The Northwest Area Foundation granted the University of Minnesota School of Public Health $292,556 to study why some rural hospitals survive and others fail. The university will study trends, economics, and technology at hospitals in eight states. It will also examine clinical care, emergency response, long-term care, and mental health facilities in the eight-state study region, which includes about 500 hospitals.

Socioeconomics

Cocaine Abuse Down

Cocaine abuse is declining in the Twin Cities, the Department of Human Services reported in December. The department's semiannual drug report showed a decrease in cocaine-related deaths, hospital emergency cases, and chemical dependency assessments and treatment.

However, the study revealed an increased percentage of cocaine-related infant deaths. Six of Hennepin County's 17 infant or stillborn deaths this year (35 percent) involved mothers who used cocaine, compared with 10 of 38 (21 percent) last year.

The study also revealed increasing deaths from heroin and opiates and greater availability of heroin in the Twin Cities.

AIDS Findings

About one in 500 U.S. college students is infected with the AIDS virus, according to a federal study by the Centers for Disease Control (CDC) published in the November 29, 1990, *New England Journal of Medicine*. HIV infection is about as common among college students as the general public, but researchers are concerned that the AIDS virus might quickly spread on campuses just as other sexually transmitted diseases have done. The researchers stressed that education is needed to change college students' sex habits.

•The CDC also projected in November that AIDS will be the fifth-leading cause of death next year for U.S. women of childbearing age; it was the eighth-leading cause of death among women 15-44 in 1987. Cancer remains the No. 1 killer. The report estimates that more than 15,000 U.S. women have AIDS, which is about 11 percent of all reported U.S. cases. The disease is most common among poor and minority women.

•Another study, this one in the December 5, 1990, *Journal of the American Medical Association*, showed that AIDS testing policies at U.S. hospitals vary widely and often do not follow recommendations from the CDC and other national medical organizations. These organizations agree that medical practitioners should take precautions to prevent transmission of the disease rather than testing all patients for AIDS, because they fear patients who test positive will receive lower-quality health care.

Recommendations also say that testing should be done only with the patient's consent. The researchers found that 83 percent of hospitals have formal policies about HIV testing, and most policies have provisions protecting patients' rights. However, "there is an awful lot more testing going on in hospitals than people are aware of," said Charles E. Lewis of the University of California at Los Angeles, one of the study's authors.

Black Life Expectancy Drops

Life expectancy for blacks dropped enough in 1988 to lower the life expectancy for Americans, reported the National Center for Health Statistics in November.

The life expectancy for U.S. blacks has dropped continually for four years, falling from 69.4 years in 1987 to 69.2 years in 1988. Life expectancy for whites was 75.6 years in 1987 and the same in 1988.

Health experts point out that a large number of deaths among blacks are preventable through more cautious behavior or better access to health care. The number of deaths from homicide, motor vehicle accidents, AIDS, drugs, and alcohol all increased for blacks during the past two years. And a study in the *International Journal of Epidemiology* reported that thousands of poor blacks die early deaths from such treatable illnesses as appendicitis, pneumonia, gall bladder infection, asthma, influenza, and hernia.

Benefits for Poor, Disabled Children

Poor and disabled children who do not receive disability benefits might have $2.5 billion available to them under a proposal made by the Bush administration. The proposal would add as many as 37,000 mentally and physically disabled children to the Supplemental Security Income (SSI) program, according to administration estimates.

In February, the Supreme Court voted 7-2 that a government regulation giving disabled children less protection through benefits than adults was unconstitutional. Currently, about half of SSI applicants qualify for benefits. That number could be as high as 65 percent under the new provisions. More than 310,000 children receive SSI benefits each month.

Innovations

AIDS Vaccine

The Food and Drug Administration in November approved a new AIDS vaccine candidate for early human clinical tests. The vaccine has already proved successful in one chimpanzee.

The first clinical trials will test the vaccine's safety and determine whether the 60 test subjects develop antibodies against the HIV virus. The first phase will not use AIDS patients. If the vaccine proves safe, a second phase of clinical trials will test more thoroughly for protection against AIDS.

The vaccine candidate was first tested on four chimpanzees, who were injected with the candidate vaccine and then with the AIDS virus. All developed an immune response and one remained free of AIDS.

The National Institute for Allergy and Infectious Diseases, the National Cancer Institute, and Immuno-U.S., a Rochester, Michigan, branch of an Austrian company, developed the vaccine candidate.

Breast Cancer Drug

Tamoxifen, an experimental drug believed to protect women from recurring breast cancer, is being tested on healthy women as a breast cancer preventive. During a 10-year clinical trial, the drug will be given to 5,000 women in England who are at high risk for the disease.

Dr. Phillip Bretz, director of the Desert Breast Institute in Rancho Mirage, California, is seeking FDA approval to recruit 14,000 women for a similar study in the United States.

Tamoxifen works by blocking estrogen from binding with receptors in cancer-prone body tissues. This prevents breast cancer cells from producing during early stages of the disease. Reports indicate that tamoxifen might also prevent osteoporosis and reduce the risk of heart disease. However, scientists are concerned about the side effects, which could include eye tumors.

Blood Test for Miscarriages

Testing blood for the luteinizing hormone (LH) before pregnancy might be a way of identifying women at risk of miscarrying, according to research published in the November 10, 1990, issue of *The Lancet*.

Researchers tested 193 women ages 21 to 43 who were trying to conceive. During an 18-month test period, 88 percent of the women with normal LH levels became pregnant, while only 67 percent of the women with abnormally high LH levels conceived.

Twelve percent of the women with normal LH levels and 65 percent with high LH levels miscarried.

Medical Research

Congestive Heart Failure

In a recent study, local researchers showed it is possible to reduce deaths due to congestive heart failure. A group of Minneapolis heart specialists halved the death rate from congestive heart failure by using a test program that included intensive patient monitoring, education, and therapy.

Of 76 severely ill congestive heart failure patients who participated in the study, 50 agreed to try the experimental program. The other 26 control patients were given conventional treatment. Patients in the program were frequently monitored for signs of cardiac arrhythmia and predictors of sudden death, which in these types of patients include weight gain due to fluid accumulation and

FOURTH ANNUAL

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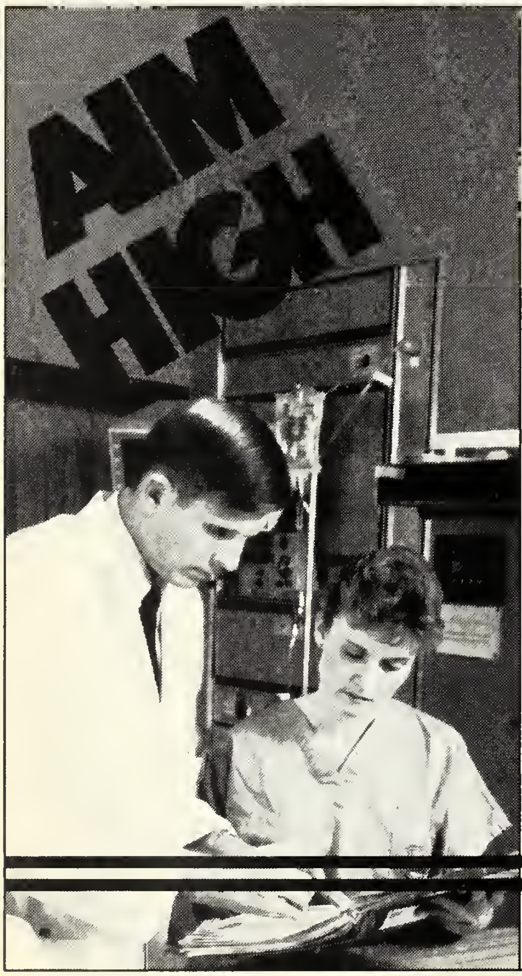

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low levels of potassium and magnesium.

After the first year of study, only 10 percent of the program participants died, while more than 19 percent of the control patients died.

The Minneapolis Heart Institute, the National Institutes of Health, and Abbott Northwestern Hospital subsidized the program.

Breast Cancer Research

An inborn genetic mutation that predisposes people to breast and other cancers has been discovered, according to research published in the November 30, 1990, issue of *Science*. The research indicates people born with the mutation have a 90 percent chance of developing cancer by age 60.

The mutation affects a gene known as p53, which normally helps stop tumor growth. Because researchers had discovered mutant copies of the gene in a large percentage of tumors in humans, they already had suspected it played a role in cancer. Researchers have now discovered that the mutation afflicts every cell of the body, meaning it is a germline mutation that can be passed from carriers to their offspring.

Scientists hope the discovery will lead to a way of identifying those at risk of developing cancer.

Estrogen and Breast Cancer Risk

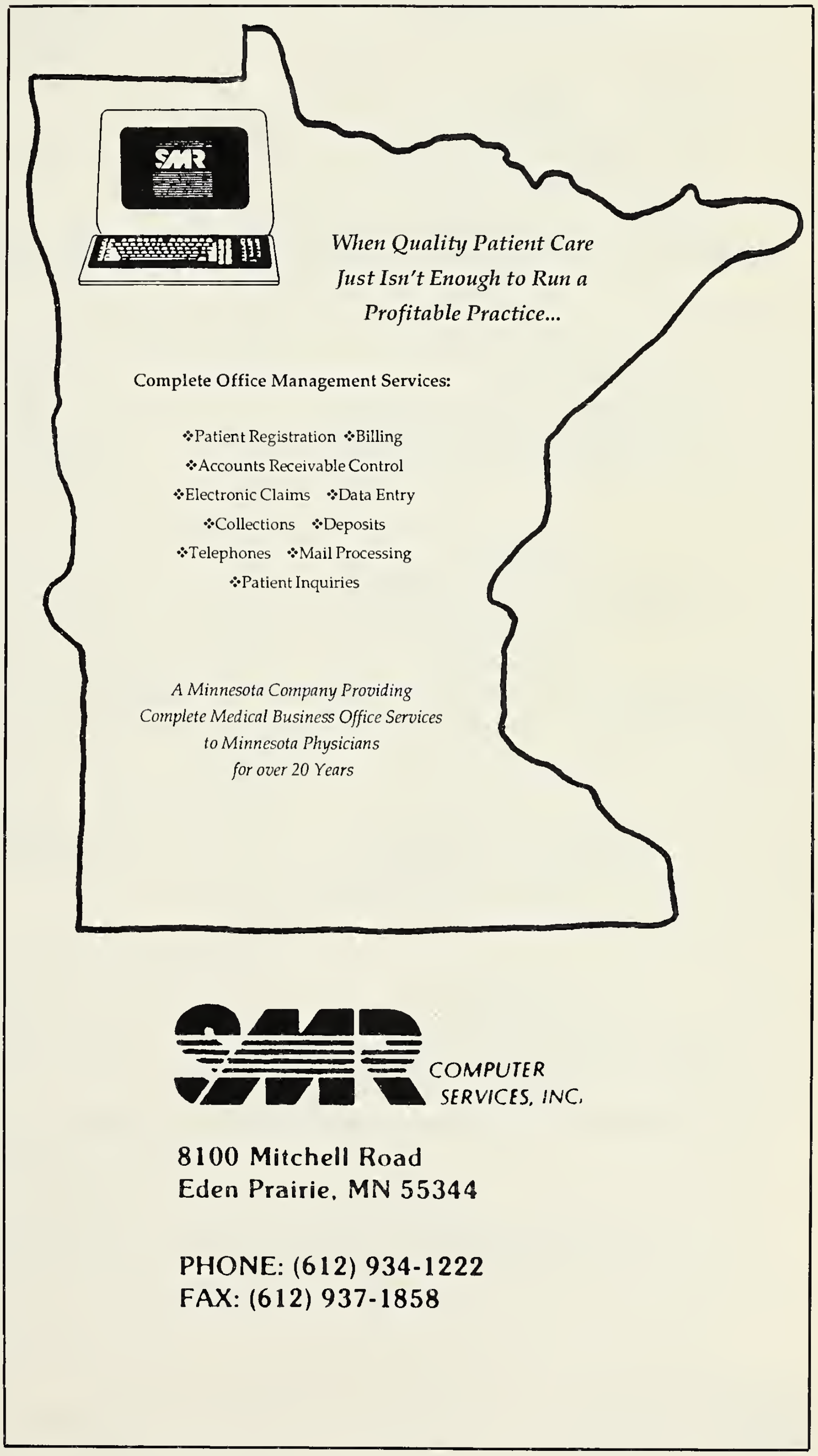
Women have a slightly increased chance of developing breast cancer if they use estrogen, according to a study published in the November 28, 1990, *Journal of the American Medical Association*. Estrogen is taken to relieve menopausal symptoms and treat osteoporosis and heart disease.

In a 10-year analysis of 118,000 female nurses, women taking estrogen were 35 percent to 40 percent more likely to develop breast cancer than those not taking the hormone. The risk is eliminated once a woman stops taking estrogen, said the study's lead author, Graham Colditz.

Long-term Lyme Disease

Years after the initial tick bite, Lyme disease victims may still suffer memory loss, mood changes, pains, and other signs of nerve damage, according to a report in the November 22, 1990, *New England Journal of Medicine*. Antibiotics can be used for the lingering symptoms, but full recovery is rare, the authors write.

MM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HENNEPIN COUNTY MEDICAL CENTER/HENNEPIN FACULTY ASSOCIATES

CALENDAR OF MEDICAL EVENTS

January 11, 1991

HCMC OTOLARYNGOLOGY CONFERENCE

Chairman
Robert Maisel, M.D.
Hennepin County Medical Center
Minneapolis

February 8, 1991

MINNESOTA DERMATOLOGICAL SOCIETY WINTER CONFERENCE

Chairman
Bruce Bart, M.D.
Hennepin County Medical Center
Minneapolis

April 12, 1991

DISASTER AND HAZARDOUS MATERIALS MANAGEMENT

Chairman
Brian Mahoney, M.D.
Location To Be Announced
Minneapolis

April 19-20, 1991

FOURTH ANNUAL JOHN I. COE SYMPOSIUM

Chairperson
LoAnn Peterson, M.D.
Hennepin County Medical Center
Minneapolis

May 9, 1991

RESEARCH AT HCMC
Fifth Annual Poster Session

Chairman
William Keane, M.D.
Hennepin County Medical Center
Minneapolis

May 16-18, 1991

ACUPUNCTURE FOR PAIN CONTROL

Chairman
Miles Belgrade, M.D.
Hennepin County Medical Center
Minneapolis

For further information, contact the Office of Academic Affairs
701 Park Avenue, Suite 4512, (Mail Code #865), Minneapolis, MN 55415; 612/347-2075
fax 612/347-6155

OFFICE OF
ACADEMIC
AFFAIRS

Hennepin County Medical Center
HENNEPIN HCMC

A Calendar of Continuing Medical Education Courses

Provided through the MMA Medical Education Subcommittee on CME Resources. For assistance with scheduling meetings or for information on future medical meetings and CME courses at the state and national level, please contact the MMA office: 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414; 612/378-1875. Information for each entry is arranged by date; name of program; primary sponsor; location; contact person.

JANUARY 1991

Jan. 11 **Hennepin County Medical Center Otolaryngology Conference** Minnesota Academy of Otolaryngology, Hennepin County Medical Center Office of Academic Affairs, Minneapolis Children's Medical Center, St. Paul Children's Hospital; The Pillsbury Auditorium, HCMC, Minneapolis, MN. CONTACT: Robin Hoppenrath, CME, HCMC Office of Academic Affairs, 701 Park Avenue, Suite 4512, Mail Code 865, Minneapolis, MN 55415; 612/347-2075.

Jan. 14-18 **Challenges in Hematology, Oncology, and Surgical Pathology** Mayo Medical Laboratories; Beaver Run Ski Resort, Breckenridge, CO. CONTACT: Martha Carey, Mayo Medical Laboratories, 200 1st Street SW, Rochester, MN 55905; 1-800/562-1787 (in Minnesota), 1-800/533-1710 (outside Minnesota).

Jan. 18 **Minnesota Urological Society** Minnesota Urological Society; Hotel Sofitel, Bloomington, MN. CONTACT: Linda Reynolds, Executive Secretary, 6750 France Avenue South, Suite 149, Edina, MN 55435; 612/925-0533.

Jan. 25-26 **Current Concepts of Cardiology for the Primary Care Physician** Abbott Northwestern Hospital; Radisson Arrowwood Inn and Resort, Alexandria, MN. CONTACT: Cathy Kohn, CME Office 14202, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

Jan. 30-Feb. 2 **Thoracic Organ Transplantation** Abbott Northwestern Hospital; Westin La Paloma, Tucson, AZ. CONTACT: Cathy Elmstrom, CME Office 14202, Abbott Northwestern Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

FEBRUARY 1991

Feb. 2-8 **Update in Clinical Neurophysiology** Mayo Clinic/Mayo Foundation; Mayo Clinic/Mayo Foundation, Rochester, MN. CONTACT: Postgraduate Courses, 200 1st Street SW, Rochester, MN 55905; 507/284-2509.

Feb. 9 **Updates in Ophthalmology for Physicians** St. Paul Eye Clinic; World Trade Conference Center, St. Paul, MN. CONTACT: Judy Resheski, 240 Lowry Medical Building, 350 St. Peter Street, St. Paul, MN 55102; 612/227-6634, Ext. 53.

Feb. 11-14 **Myelodysplastic Syndromes (Pre-leukemias)** Mayo Medical Laboratories; Hilton at Walt Disney World, Orlando, FL. CONTACT: Martha Carey, Mayo Medical Laboratories, 200 1st Street SW, Rochester, MN 55905; 1-800/562-1787 (in Minnesota), 1-800/533-1710 (outside Minnesota).

Feb. 11-15 **Obstetrical Review** Mayo Clinic/Mayo Foundation; Hyatt Orlando, Orlando, FL. CONTACT: Postgraduate Courses, 200 1st Street SW, Rochester, MN 55905; 507/284-2509 or 800/323-2688.

Feb. 15 **Burn Care Update** St. Paul-Ramsey Medical Center; Holiday Inn East, St. Paul, MN. CONTACT: Bonnie Young, 640 Jackson Street, St. Paul, MN 55101; 612/221-3992.

Feb. 15 **Minnesota Urological Society** Minnesota Urological Society; Hotel Sofitel, Bloomington, MN. CONTACT: Linda Reynolds, Executive Secretary, 6750 France Avenue South, Suite 149, Edina, MN 55435; 612/925-0533.

Feb. 15-16 **Sexual Attitude Reassessment Seminars (SAR)** University of Minnesota; Program in Human Sexuality, Minneapolis, MN. CONTACT: SAR Coordinator, Program in Human Sexuality, 2630 University Avenue SE, Minneapolis, MN 55414; 612/627-4360.

Feb. 18-22 **Selected Topics in Internal Medicine** Mayo Clinic/Mayo Foundation; Del Coronado, San Diego, CA. CONTACT: Post Graduate Courses, 200 1st Street SW, Rochester, MN 55905; 507/284-2509.

Feb. 20-21 **Geriatric Drug Therapy Symposium** Office of CME, University of Minnesota; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, MN 55455; 612/626-7600.

Feb. 24-28 **Undersea & Hyperbaric Medicine Course** Health One Office of CME; Stouffer Wailea Beach Resort, Maui, HI. CONTACT: Health One Office of CME, 2810 57th Avenue North, Minneapolis, MN 55430-2496; 612/574-7895.

Feb. 25-Mar 1 **Problem-oriented Case Studies in Surgical Pathology** Mayo Medical Laboratories; Wyndham Palm Springs Resort, Palm Springs, CA. CONTACT: Martha Carey, Mayo Medical Laboratories, 200 1st Street SW, Rochester, MN 55905; 1-800/562-1787 (in Minnesota), 1-800/533-1710 (outside Minnesota).

MARCH 1991

Mar. 1-3 **Neurology in Clinical Practice** Mayo Clinic/Mayo Foundation; Telmark Lodge, Cable, WI. CONTACT: Postgraduate Courses, 200 1st Street SW, Rochester, MN 55905; 507/284-2509 or 800/323-2688.

Mar. 4-8 **Current Concepts in Gastroenterology** Mayo Clinic/Mayo Foundation; Tradewinds, St. Peters, FL. CONTACT: Postgraduate Courses, 200 1st Street SW, Rochester, MN 55905; 507/284-2509.

Health One Medical Education

January 12
GENERAL UPDATE FOR THE NON-OPTHALMOLOGIST
Sponsored by United Eye Institute
St. Paul Heart & Lung Conference Center,
9:00 a.m. - 3:00 p.m.
Reservations are due January 4.
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January 23
1991 MEDICAL STAFF LEADERSHIP RETREAT
Sheraton Midway, St. Paul, Minnesota,
8:00 a.m. - 4:30 p.m.

February 18-22
EMERGENCY MEDICAL SERVICES UNDERSEA MEDICINE CONFERENCE
Stouffer Wailea Beach Resort
Maui, Hawaii
Faculty:
- Alfred Bove, M.D., PhD, Chief, Department of Cardiology, Temple University, Philadelphia
- Robert Overlock, M.D., Medical Director, Hyperbaric Medicine, Veterans Memorial Hospital, Kauai, Hawaii
- Jon Pegg, M.D., Senior Consultant, University of Hawaii Hyperbaric Treatment Center and past President of Hawaii Undersea Medical Society

For further information, contact the Office of Continuing Medical Education Health One (612) 574-7895 or call toll-free 1-800-343-3627.

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Mar. 7-8 **Critical Care Medicine** St. Paul-Ramsey Medical Center; Holiday Inn East, St. Paul, MN. CONTACT: Bonnie Young, 640 Jackson Street, St. Paul, MN 55101; 612/221-3992.

Mar. 12-13 **Pediatric Advanced Life Support (PALS)** St. Paul-Ramsey Medical Center; Capitol Professional Building, St. Paul, MN. CONTACT: Bonnie Young, 640 Jackson Street, St. Paul, MN 55101; 612/221-3992.

Mar. 14-15 **Family Practice Today** St. Paul-Ramsey Medical Center; Holiday Inn East, St. Paul, MN. CONTACT: Bonnie Young, 640 Jackson Street, St. Paul, MN 55101; 612/221-3992.

Mar. 15 **Minnesota Urological Society** Minnesota Urological Society; Hotel Sofitel, Bloomington, MN. CONTACT: Linda Reynolds, Executive Secretary, 6750 France Avenue South, Suite 149, Edina, MN 55435; 612/925-0533.

Mar. 23 **12th Annual Occupational Medicine Update** St. Paul-Ramsey Medical Center; Holiday Inn East, St. Paul, MN. CONTACT: Bonnie Young, 640 Jackson Street, St. Paul, MN 55101; 612/221-3992.

Mar. 24-27 **Strategies in the Management of Complex Congenital Heart Disease** Mayo Foundation and Phoenix Children's Hospital; Camelback Inn, Scottsdale, AZ. CONTACT: Postgraduate Courses, 200 1st Street SW, Rochester, MN 55905; 507/284-2509 or 800/323-2688.

APRIL 1991

Apr. 4-5 **Ob/Gyn Update** St. Paul-Ramsey Medical Center; Holiday Inn East, St. Paul, MN. CONTACT: Bonnie Young, 640 Jackson Street, St. Paul, MN 55101; 612/221-3992.

Apr 4-6 **Total Joint Arthroplasty** Mayo Clinic/Mayo Foundation; Scottsdale, AZ. CONTACT: Rita Kunz or Jan Fleck, Mayo Clinic/Mayo Foundation, 200 1st Street SW, Rochester, MN 55905; 507/284-2509.

Apr. 5 **Annual ENT Update for Primary Care Physicians** St. Paul-Ramsey Medical Center; St. Joseph's Hospital, St. Paul, MN. CONTACT: Bonnie Young, 640 Jackson Street, St. Paul, MN 55101; 612/221-3992.

Apr. 5 **Identification and Management of HIV-Infected Persons** Office of CME, University of Minnesota; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, MN 55455; 612/626-7600.

Apr. 8-9 **Annual Ophthalmology Course** Office of CME, University of Minnesota; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, MN 55455; 612/626-7600.

Apr. 11-12 **Allergy & Clinical Immunology** Office of CME, University of Minnesota; Mayo Memorial Auditorium, Minneapolis, MN. CONTACT: Registrar, Office of CME, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, MN 55455; 612/626-7600.

Apr. 18-19 **Bone Marrow Processing Laboratory** Office of CME, University of Minnesota; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, MN 55455; 612/626-7600.

Apr. 19-20 **Sexual Attitude Reassessment Seminars (SAR)** University of Minnesota; Program in Human Sexuality, Minneapolis, MN. CONTACT: SAR Coordinator, Program in Human Sexuality, 2630 University Avenue SE, Minneapolis, MN 55414; 612/627-4360.

Apr. 22-26 **Family Practice Review** Office of CME, University of Minnesota; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, MN 55455; 612/626-7600.

MAY 1991

May 14 **Women's Cancer Center Symposium** Office of CME, University of Minnesota; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, MN 55455; 612/626-7600.

May 15-17 **Concepts in Radiation Therapy** Office of CME, University of Minnesota; Mayo Memorial Auditorium, Minneapolis, MN. CONTACT: Registrar, Office of CME, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, MN 55455; 612/626-7600.

May 22-24 **International Symposium on Neuroblastoma Screening** Office of CME, University of Minnesota; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, MN 55455; 612/626-7600.

JUNE 1991

June 12-14 **Topics & Advances in Pediatrics** Office of CME, University of Minnesota; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, MN 55455; 612/626-7600.

June 21-22 **Sexual Attitude Reassessment Seminars (SAR)** University of Minnesota; Program in Human Sexuality, Minneapolis, MN. CONTACT: SAR Coordinator, Program in Human Sexuality, 2630 University Avenue SE, Minneapolis, MN 55414; 612/627-4360.

JULY 1991

July 20-27 **Ninth Annual Medical Seminar** North Memorial Medical Center, University of Minnesota Department of Family Practice, and St. John's Regional Health Center; Plummer's Great Slave Lake Lodge, NW Territories, Canada. CONTACT: Joseph F. Bocklage, M.D.; 612/588-9478.

Continuing Medical Education

Spring Conference Schedule

Mark your calendar now for these upcoming conferences:

1991

February 7	Pain: Assessment and Relief
February 7	Advanced Burn Life Support Pre-hospital
February 8	Burn Care Update, St. Paul
March 7-8	Critical Care 1991: State of the Art, St. Paul
March 14-15	Family Practice Update, St. Paul
March 13 & 15	Trauma Nursing Core Course, St. Paul
March 22	Occupational Medicine, St. Paul
March 24-29	Minnesota Surgical Winter Meeting, Steamboat Springs, CO
April 4-5	Ob/Gyn Update, St. Paul
April 5	ENT Update, St. Paul
October 18	Bioethics Course, St. Paul
October 24-25	Emergency Medicine, St. Paul
November 14-16	Primary Care Medicine, St. Paul
November 21-22	Trauma, St. Paul
December 5-7	Cardiopulmonary Medicine, St. Paul

Information and Registration

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Family Physician/Emergency Room: Full-time salary working weekends, primarily emergency room. Flexibility available. Falls Medical Center, PA, 105 Shorewood Drive, International Falls, MN 56649. Please contact: A. Johnson, M.D., or A. Marc Gorden, M.D., at 218/283-9431 for more information. (R)

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Physician: GP/FP/EM seeks locations to cover on weekends as locum tenens. Board-certified. FP. Lic. Minn. Write: Box 35132, Minneapolis, MN 55436. (R)

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Outstanding Opportunity for a BC/BE Family Physician to join a progressive medical community with eight physicians oriented to family practice. Details will be given by contacting: Dr. Tim Schmitt, Wadena Medical Center, 218/631-1360, or Jim Lawson, Administrator, Tri-County Hospital, Wadena, MN 56482; 218/631-3510. (R)

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Family Practice: Physicians seeking a BC/BE family practice physician for the Norway, Michigan, service area. The physician would have the option of joining one of the existing practices and/or setting up his/her own practice. Anderson Memorial Hospital is a part of Dickinson County

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Radiologist: A three-physician radiology group is seeking a fourth radiologist with experience and interest in interventional radiology. Dickinson County Hospitals is a progressive, 126-bed, two-hospital system located in Iron Mountain, Michigan's Upper Peninsula. We have a service-area population of over 45,000. Contact and/or send résumé to: Drs. Specht/Shampo/Manzano, Radiology Department, Dickinson County Hospitals, 400 Woodward Avenue, Iron Mountain, MI 49801; 906/779-4565. 2-1/91

Mankato: FP partner to join four board-certified family physicians, ages 31-41, in fast-growing, full-range practice, includes ob. Population 40,000+. 70 miles to Twin Cities. Four colleges nearby. 90+ physicians on hospital staff. Academic appointment available. Call: Tony Giefer, M.D.; 507/387-8231. (1/90-R)

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Dermatologist, Psychiatrist, Allergist, Internal Medicine, Family Practice: A progressive, 126-bed, two-hospital system is seeking the above specialties to establish practices in the Iron Mountain area of Michigan's Upper Peninsula. Must be BC/BE. Located 100 miles north of Green Bay, Wisconsin. Dickinson County Hospitals has a medical staff of 45 full-time physicians and a total service-area population of over 45,000. Diagnostic capabilities include a CT scanner, CO_2 laser, and a fully staffed special diagnostic department. Contact: John Schon, Administrator, Dickinson County Hospitals, 400 Woodward Avenue, Iron Mountain, MI 49801; 906/779-4500. *2-2/91

BC/BE Family Practice and Internal Medicine Physician: Excellent opportunity to join well-established, progressive, 20-physician multispecialty group located in an economically sound community of 20,000 (drawing area of 30,000), 65 miles south of the Twin Cities. Full membership after one

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   5.5 credits prescribed by the AAFP
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To register, contact Robin Rainford, 800-328-1571 or 221-2000. A $100 registration covers the course fee, materials and lunch. **Registrations close Jan. 17.** The course will be held at St. Paul-Ramsey Medical Center, 640 Jackson, St. Paul, Minnesota 55101.

Course support was provided by Burdick Corp.

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Internist to join a progressive 13-physician group practice. Rural college town 30 miles from St. Paul, Minnesota, with community hospital. Contact: Robert B. Johnson, M.D., River Falls, WI 54022; 715/425-6701 or 612/436-8809. (*3/90-R)

Family Practitioner to join a progressive 13-physician group practice. Rural college town 30 miles from St. Paul, Minnesota, with community hospital. Contact: Robert B. Johnson, M.D., River Falls, WI 54022; 715/425-6701 or 612/436-8809. (*3/90-R)

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On the cover, preceptor Raymond Christensen, a Moose Lake physician, and UMD medical student Tim Fursa make a stop at Art's Cafe on Highway 61 in Moose Lake. Photo by Rob Levine of Minneapolis.

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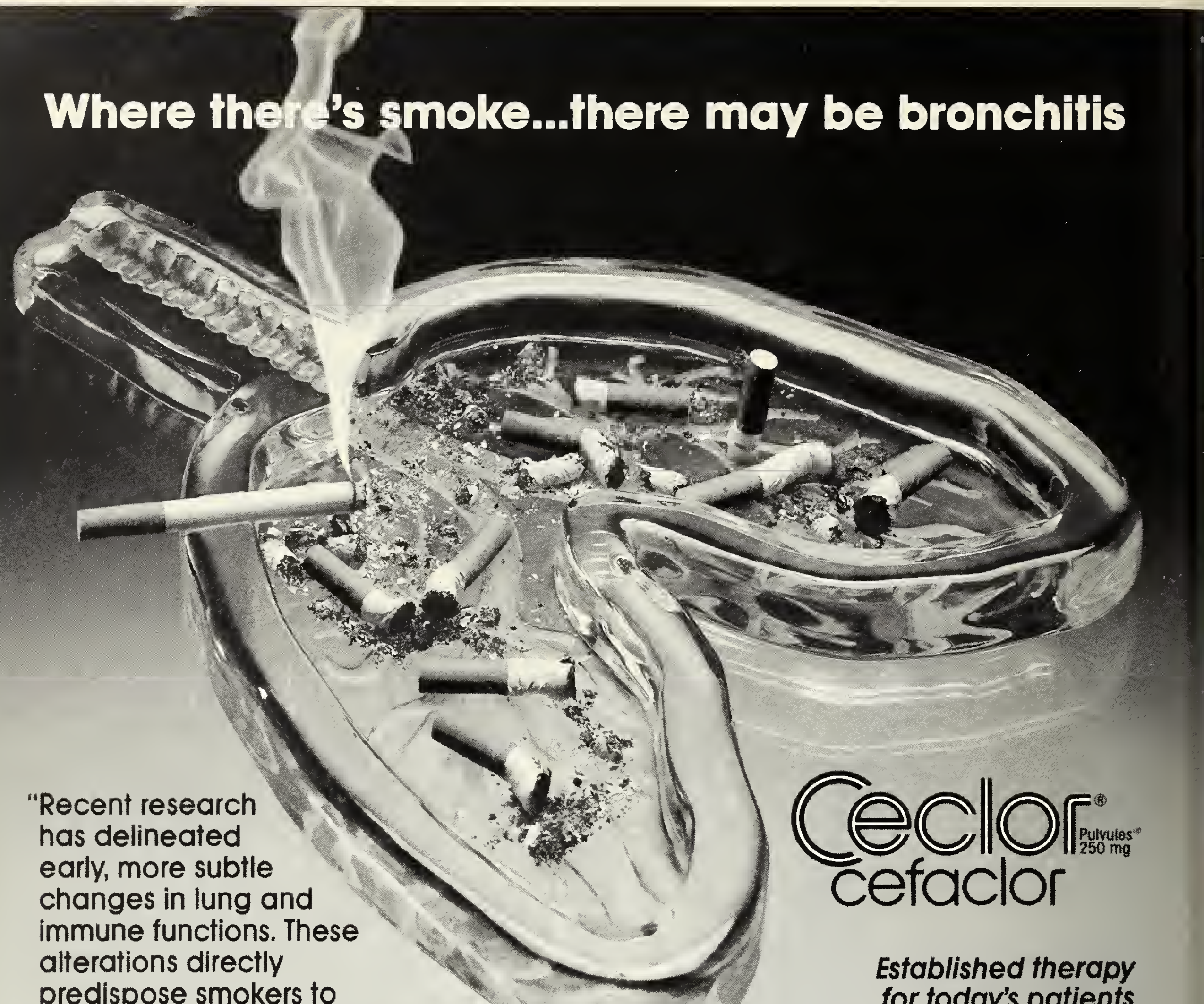

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- Discontinue Ceclor in the event of allergic reactions to it.
- Prolonged use may result in overgrowth of nonsusceptible organisms.
- Positive direct Coombs' tests have been reported during treatment with cephalosporins.
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- Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.
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Therapy-related adverse reactions are uncommon. Those reported include:
- Hypersensitivity reactions have been reported in about 1.5% of patients and include morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients. Cases of **serum-sickness-like** reactions have been reported with the use of Ceclor. These are characterized by findings of erythema multiforme, rashes, and other skin manifestations accompanied by arthritis/arthralgia, with or without fever, and differ from classic serum sickness in that there is infrequently associated lymphadenopathy and proteinuria, no circulating immune complexes, and no evidence to date of sequelae of the reaction. While further investigation is ongoing, **serum-sickness-like** reactions appear to be due to hypersensitivity and more often occur during or following a second (or subsequent) course of therapy with Ceclor. Such reactions have been reported more frequently in children than in adults with an overall occurrence ranging from 1 in 200 (0.5%) in one focused trial to 2 in 8,346 (0.024%) in overall clinical trials (with an incidence in children in clinical trials of 0.055%) to 1 in 38,000 (0.003%) in spontaneous event reports. Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy; occasionally these reactions have resulted in hospitalization, usually of short duration (median hospitalization = two to three days, based on postmarketing surveillance studies). In those requiring hospitalization, the symptoms have ranged from mild to severe at the time of admission with more of the severe reactions occurring in children. Antihistamines and glucocorticoids appear to enhance resolution of the signs and symptoms. No serious sequelae have been reported.
- Stevens-Johnson syndrome, toxic epidermal necrolysis, and anaphylaxis have been reported rarely. Anaphylaxis may be more common in patients with a history of penicillin allergy.
- Gastrointestinal (mostly diarrhea): 2.5%
- Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment.
- As with some penicillins and some other cephalosporins, transient hepatitis and cholestatic jaundice have been reported rarely.
- Rarely, reversible hyperactivity, nervousness, insomnia, confusion, hypertonia, dizziness, and somnolence have been reported.
- Other: eosinophilia, 2%; genital pruritus or vaginitis, less than 1% and, rarely, thrombocytopenia and reversible interstitial nephritis.

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- Transient lymphocytosis, leukopenia, and, rarely, hemolytic anemia and reversible neutropenia.
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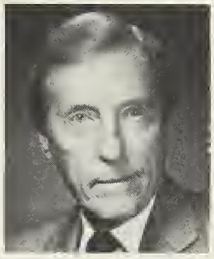
Poverty's Social Ills Are Medical Problems, Too

Edmund C. Burke, M.D.



> "Like many social issues, poverty leads to numerous public health and medical problems."

More by happenstance than by design, this month's issue of *Minnesota Medicine* focuses on public health. Our two Clinical and Health Affairs articles discuss diseases in a public health context. The first, on page 21, describes the scope of tuberculosis in St. Paul. The second, on page 25, examines the impact that diabetes and its complications have on Minnesota residents.

The Face to Face interview with James L. Kurowski, M.D., (page 7) is about public health issues as well. Kurowski, who was appointed to the combined positions of Olmsted County health officer and chief executive officer of the Olmsted Community Hospital in July 1989, talks about taking an integrated approach to public health, medical care, and environmental issues. This approach makes sense, particularly as distinctions are blurring between what we typically have categorized as medical, public health, and social issues. AIDS, which Kurowski describes as the most dramatic public health issue today, is a prime example.

Another is poverty. Like many social issues, this one leads to numerous public health and medical problems. A recent report on Minnesota's children by the State Planning Agency revealed that 200,000 of Minnesota's 1.3 million children are poor. Development is slowed in many of these children because of poor nutrition and inadequate prenatal and childhood health care. A shocking 50,000 Minnesota children lack health care coverage, and 100,000 children are so poor that they depend at least partially on food shelves for meals.

These statistics are incredible, but they are reality.

In addition, "Minnesota Children: Indicators and Trends," cites cocaine and alcohol abuse by pregnant mothers as a growing social problem that is causing an increase in the number of developmentally delayed babies and children. It also states that family and societal stresses are related to teen drug and alcohol abuse and premature pregnancy. These social, public health, and medical issues are clearly interrelated.

According to the report, medical problems are not the only kind our children face in today's society. While Minnesota leads the nation in high school graduation rates (91 percent), the percentage of youth dropping out of school crept up for all racial and ethnic groups during the 1980s.

The report estimates that 15 to 20 percent of our state's children live with a single parent. While the divorce rate appears to have stabilized, births outside marriage are increasing. Children of never-married parents have now surpassed children of divorced parents as the largest group of children dependent on public assistance. The report lists family instability, parental abuse, unclear parent and social values, racism, sexism, and poverty as the major causes of teen delinquency, school drop-outs, pregnancy, and substance abuse.

What strategies can we adopt to address these problems? The report says that policy-makers must take a preventive approach. It suggests strengthening families, building support systems outside of families, and affirming diverse cultures.

Research has shown that preventive investments in preschoolers pay off. Minnesota is responding by increasing its funding of the Children's Health Plan, the Head Start Program, and others. According to the report, funding for these programs is among the nation's highest but still falls short of demand.

There is hope for the future, and to make further progress for the welfare of our children, the State Planning Agency report says we must:

- Assume that virtually all children can be successful, and build success and rewards around individual strengths.
- Empower ethnic communities to provide leadership in shaping and implementing solutions.
- Strengthen family and neighborhood support systems. Address family and societal strains and abuses.
- Place a high value on children. Challenge parental and public attitudes. Review the impact of public- and private-sector policies.

Nationally, the American Academy of Pediatrics has urged Congress to provide adequate funding for existing federal programs that affect children's health. The academy has been moderately successful, although the funding remains modest by federal standards. Only small increases for the 1991 fiscal budget have been granted for immunizations, family planning, lead poisoning prevention, pediatric emergency services, and primary care training in internal medicine and pediatrics. The maternal child health block grant and state grants to combat child abuse have also received moderate increases.

It is difficult to get the attention of policy-makers, even as the poor, underprivileged, and underinsured populations create a clamor. But small voices must be heard—by society, by public health professionals, and by medical care providers. MM

News from Dr. Reece: Richard L. Reece, M.D., *Minnesota Medicine*'s former editor, can be reached at Northwest Laboratories, Inc., Regional Reference Lab, 4444 Classen Boulevard, Oklahoma City, OK 73118; 405/525-8211, Ext. 43.

Dr. Reece reports that his work is going well in Oklahoma City and says he plans to continue publishing the *Reece Report.*

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Public Health and Community-based Problem Solving

Minnesota Medicine interviews James L. Kurowski, M.D.

Olmsted County's commissioners appointed James L. Kurowski, M.D., to a position combining the duties of the Olmsted County health officer and the chief executive officer of the Olmsted Community Hospital in July 1989. In combining these positions, Olmsted's commissioners made a creative decision, bringing two county organizations with different orientations—the Health Department and the community hospital—under single administrative leadership. This created a bridge between the organizations' functions.

The significance of the commissioners' decision may not be readily apparent, but it is certainly important. Traditionally, community health boards focus on the community's health, while hospitals focus on patient services. In our changing society, where issues such as the spread of AIDS have put increasing focus on public health, it is becoming more important to bring public health and health care delivery into a closer working relationship.

The Olmsted County Health Board and the Olmsted Community Hospital Board have been officially combined to become the Olmsted County Health Center Board, which held its first meeting January 9.

The commissioners chose Dr. Kurowski to lead the health board and hospital merger with good reason. He has an extensive background in both public and private sectors, and he was successful in positions with the Denver Department of Health and Hospitals from 1972 to 1985, when he served as director of Medical Education and Public Health and director of Disease Prevention and Control.

Bridging Public and Private Health

Minnesota Medicine: Dr. Kurowski, tell us more about your background and your qualifications for your position as Olmsted County health officer and hospital CEO.

Kurowski: My background is in the medical specialty of public health. I have a master's degree in public health from Johns Hopkins University and am board-certified in preventive medicine. I have also worked for 20 years in health services delivery in the public sector and for five years in the private sector as director of medical affairs for two private hospitals.

James L. Kurowski, M.D.

> "The medical and scientific resources Olmsted County has available are unsurpassed."

Minnesota Medicine: You were appointed Olmsted County health officer and Olmsted County Hospital's chief executive officer in July 1989. What do these positions entail? Are they two separate positions?

Kurowski: Traditionally, the position of public health officer is government-based with the duty to prevent disease and protect the public's health. The hospital CEO's role is administrative, and priorities are delineated within a "market" context. The county board and administration have bridged the two county organizations, which are located in one facility, to integrate their approach to problem solving for health services. This reorganization of the county will also allow it to coordinate its environmental efforts among the departments of Planning, Public Works, and the Environmental Division of the Public Health Department.

Minnesota Medicine: What is the significance of combining these positions? Are you the first to do so in Olmsted County? In Minnesota?

Kurowski: Hennepin County had approached this type of organization, but I'm not sure of its current status. It is innovative and significant locally and may be so for other Minnesota counties. It uses a public health and medical approach for county government problems.

Minnesota Medicine: What part of your background do you think appealed to the county commissioners when they appointed you?

Kurowski: It's difficult to know what was in the minds of the seven commissioners, but I think my combination of public- and private-sector experiences was important, as well as my belief that public health should not be anti-medical or anti-physician. The physician is a vital player—and can be the most important player—in achieving public health. That depends on physician leadership.

Minnesota Medicine: Why did this position appeal to you?

Kurowski: Olmsted is one of the most extraordinary counties in the country, if not in the world. Its medical and scientific resources through the Mayo Clinic are unsurpassed. The highly educated community as well as the presence of IBM and the Olmsted Medical Group, both of which have a scientific orientation toward public health that is vital for improving community health, give Olmsted County a great opportunity for improving public health.

Conquering Challenges

Minnesota Medicine: What challenges do you face in your dual position as health officer and hospital CEO?

Kurowski: My principal challenge is to help this community find opportunities to use the resources available. We have tremendous resources, but sometimes we are like ships passing in the night. We're each so busy within our own focus that we sometimes lose sight of our community's health. I believe I can provide a leadership focus on health in county government.

> "The most dramatic public health issue is AIDS and its spread."

Minnesota Medicine: What progress have you made since you've been health officer and CEO?

Kurowski: Here are some of the changes that come to mind: First, the Health Department established budgeting priorities for its programs. Second, the county administration completed an analysis of the county's policy-making for environmental problems. This has resulted in the reorganization of county government to form an environmental commission. Third, the hospital's emphasis on quality assurance was changed to quality improvement, and the medical staff's leadership role has been better integrated into board and management decisions. And last, the community hospital board and public health advisory functions were combined.

Minnesota Medicine: What you've accomplished is quite unusual. Combining health and hospital board functions may have taken place in other parts of the country, but, as you stated, it is new to Olmsted County. Did people feel threatened by this new approach?

Kurowski: Some feared that prevention would lose emphasis when it was combined with delivery of curative services. I have articulated the distinctions between primary, secondary, and tertiary prevention, as preventive medicine has defined these terms. Primary prevention includes immunizations and prevention before symptoms appear. Secondary prevention is diagnosis and treatment of symptomatic disease. Tertiary prevention is rehabilitation from disease or injury. As with other specialties, preventive medicine has a way of defining the world to serve its own needs. These definitions create a need for a wide range of roles in the community and make balance and respect crucial. I have placed my confidence in the staff to help us find better ways of doing things, and it's working. The hospital and the Health Department staff are learning to use a common language and to be more respectful of each other.

Rural Public Health Officers

Minnesota Medicine: I'd like to expand the scope of our discussion by asking you about the role of public health officers in rural areas. Few rural areas are fortunate enough to have public health officers. How can they be used in rural areas?

Kurowski: There are few physician health officers in Minnesota—two to be exact. Let me slightly modify the question. That is, how do we address the issues of public health in rural communities? The answer may depend upon how we organize county government. Separating personal health and environmental health services, as the Olmsted County board and administration have done, could be significant. Minnesota laws are flexible and allow local government to address needs creatively. Sparsely populated areas can benefit by adopting multi-county arrangements, and Minnesota laws offer opportunities to do so.

Minnesota Medicine: You came from Denver, which is a big city by Rochester standards. Have you found urban health care delivery problems to be distinctly different from those in rural areas?

Kurowski: A limited supply of providers is a typical rural problem. But supply is not a problem in Olmsted County; we have an abundance of providers. Problems in urban communities such as Denver arise from high concentrations of special populations—whether defined by income, race, recent immigration, sexual behavior, or something else. These populations have specific, intense health care needs. Cities and counties often are not sufficiently organized to address these needs. State and federal government will be the principal forums for action, but cities and counties may have better insight into the local problems and should facilitate efforts to address gaps in health care services.

Public Health and the Environment

Minnesota Medicine: Let me ask you a question that is more locally concerned. Because of Rochester's particular geology, that is, its karst formation (fractured limestone beneath thin topsoil in some areas that allows for potential groundwater pollution), a number of people in this community are very concerned about the environment and ecology. Do you think these concerns are pertinent to public health?

Kurowski: Yes, they are directly related to health protection and, therefore, to public health. I would also say public health is important to addressing environmental problems, principally because it offers a methodology for prioritizing problems. When addressing environmental issues, it can be very difficult to know what you're trying to accomplish and for whom. The ecology movement focuses on the relationships among all aspects of biologic life. However, communities must address environmental concerns in an orderly way. It's a political process, and epidemiology and public health provide a method that can be helpful in sorting the priorities.

AIDS and Public Health

Minnesota Medicine: When we move beyond our community and look at public health nationally, what do you consider our largest and most compelling public health problem today?

Kurowski: In addition to peace, the most dramatic public health issue is AIDS and its spread. HIV is responsible for the resurgence of public health approaches. AIDS is raising serious questions that will test the public and private institutions in our democracy at the local, state, and federal levels of community.

Minnesota Medicine: That brings up another question that's bothered a lot of us in medical societies, both locally and nationally: the role of organized medicine in HIV infection and the AIDS epidemic. What do you see as organized medicine's role?

Kurowski: First, I've come to know organized medicine as one of the most democratic institutions in American society. The American Medical Association is a federation of state societies, and the state societies are federations of local societies. The role of organized medicine has been very different in different localities, reflecting the leadership capacity of those societies. There have been spirited debates about HIV, the problems of those who have the disease, those who are at risk, and those who provide care to people with the disease. Those debates have all been useful. Scientifically, medicine and public health have made significant progress on AIDS and will continue to do so. Questions related to AIDS and its spread will be addressed in public debate. Physician leadership is needed at all levels of medical societies and in every community.

Minnesota Medicine: At the December AMA interim meeting in Orlando, a reporter asked permission to speak at a reference committee. He accused the medical profession of cooperating in a conspiracy of silence. I presume he meant confidentiality. How do you react to the reporter's claim?

Kurowski: Organized medicine need not be defensive about its role in the AIDS issue. Balancing the concerns of an HIV-infected individual against the concerns of someone who may become infected will become an increasingly pressing issue. There is no one perfect solution that will fit all circumstances.

Public Health Awareness

Minnesota Medicine: In closing, I'd like to ask you more about public health as a career. When we were in medical school, most of us were so concerned with trying to pass the next examination and understand the basic sciences and clinical studies, that we didn't pay much attention to public health. Do you think there is a new focus on public health as a medical career today?

Kurowski: Public health is an exciting career, but the educational institutions that appear to be responding are not medical schools. Physicians interested in public health as a career will likely find their education outside of medical school, often in schools of public health.

There is a new awareness of public health as a method of addressing problems from a community-based focus. Two forces are driving the new awareness. One is global ecology and environmental issues. The other is AIDS—the resurrection of an infectious disease. When I graduated from medical school in 1965, my impression was that acute infectious diseases were a thing of the past. One of my readings when I was a county health officer in rural Mississippi was René Dubos' *Mirage of Health*. It refuted the theory that infectious diseases could be controlled and argued that the ecology of microbiologic organisms will evolve, and when it does, diseases will change. René Dubos' prophecies are today's events. **MM**

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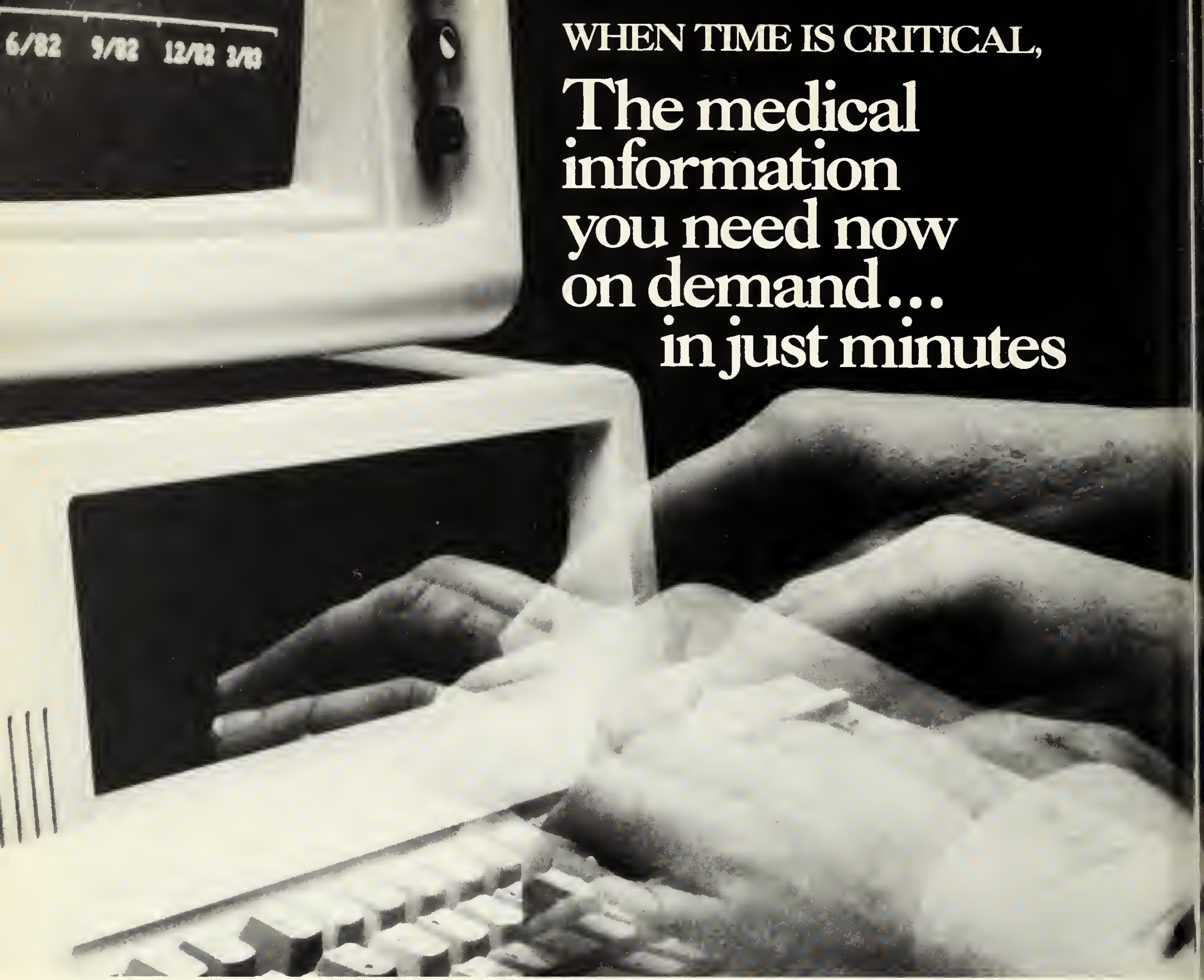
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Living the Patient's Story

Michael A. LaCombe, M.D.

What can we learn from the dying beyond a sudden sense of our own mortality? From the young woman with cancer who, in the midst of her pain and suffering, becomes abruptly still, looks about her hospital room with dawning recognition, fixing her visitors and doctor with a look of wisdom drawn from some mysterious source, and proclaims with certain finality that she loves and will miss them all—is there anything to be gained beyond the poignancy of the moment? Is it that we have become a part of her story?

Or perhaps the patient will be a stern, elderly professor, now close to death. For decades in the classroom, frowning at students over his glasses, guiding them, correcting them, setting them about a proper course, he has secretly wondered whether his life has had any true meaning. And only now, from the steady procession of former students, from the testimony of colleagues and peers, does he gain any sense of consummation. But why only now? Why not 20 or 50 years ago, when open-hearted acclamation could have been built upon? Why do we wait until the eleventh hour to speak to our friends from the heart? And even at the eleventh hour, do we ever open ourselves unreservedly? Does it matter?

If it is true, as it most certainly is, that a life in medicine offers the physician a front-row seat in the drama of life, what does the doctor hear in the stage director's urgent whispers, what does he see in the pain of the actor's face, and what can he learn from the troubled eyes of the diva that escapes the notice of those seated less providentially?

A man comes to the hospital to visit his sick wife. Within two weeks he himself will die from a mysterious disease. Having cared for the wife, the doctor is asked by her to have a look at him as well. There he stands, a woodsman of enviable strength, unnerved by the pristine antisepsis of the hospital. Behind him, apart and withdrawn, stands their retarded son, in his mid-30s, lurking there by the drapes with feral eyes. He peers at the doctor as though from some dark cave, face expressionless, filling the doctor with an uncommon fear. What begins for the woodsman as fever and troublesome speech, ends two weeks later with coma, agonal breath, flaccid palsy, and death. In the intervening days the doctor treats him with rare intensity, calling in the brightest consultants, fine-tuning the delicate machinery of intensive care. The man's wife and daughters hover at the bedside through it all, shocked at the suddenness of his devastation, at this reversal of fortune. She had been the sickly one, and he, her rock, her foundation. Now he finds himself at Death's dreadful door, and she will be the one left alone. And through all of the doctor's frantic attention to his father—the urgent summonses to the bedside, the late, sleepless nights before his monitors, the spinal taps and respirator care—the man's retarded son stands silently against the wall and watches. Never altering his stonelike expression, his eyes shift to the nurse running off with an order, now to the doctor's hands probing for hope from his father's body, then to his mother sitting, weeping, and now to his sisters, overcome with emotion, unable to manage their own anger and despair. And in the end, he watches the monitor go straight-line, lifeless, watches a finger flick off the respirator, sees the slow, sorrowful nod to his mother. The man's physician leaves them there with the deceased, and with the nurse, walks out of the room and into the hall, exhausted. There they stand, nurse and doctor, saying nothing, each staring off at some point far away. Then the doctor feels something at his arm. He turns to find the retarded man standing still beside him, eyes dark and sad. He has touched the doctor's arm with the point of his index finger.

> "The practice of rural medicine is enriched by the story of the patient who is your friend."

"Thanks," he says, and walks away.

The nurse, who has seen it all, has seen the wife beatings and child abuse of the metropolitan hospitals, the gunshot wounds snuffing out the life of youth in silly, wanton murder, the nurse who has been hardened by the swirling decay of society manifested by the chaos of the big-city hospital, is overcome.

"Oh, Christ!" she says, and buries her face in her hands. The doctor fights for control, braces himself against a wave of emotion, and walks her down the hall, holding her tightly.

What has moved them in this way? The wonderful simplicity of the son's gratitude? The startling paradox of a retarded man who seemed to feel the thanks that we often miss? Is there a message here for all of us, buried somewhere in a file marked "What Wasn't Said"? Might it be that we, as doctors, live the case history along with our patients, and too often ignore that role, to our own great loss?

There is in this business of case histories something unique about country doctoring. The rural physician has friends and neighbors for patients, a knife that cuts both ways. On the one hand, the repeated suffering and loss can be overwhelming for the country doctor, and incapacitating for a time. There is the temptation to become jaded, hardened, immune. But the practice of rural medicine is enriched by the story of the patient who is your friend, a story the physician lives as well. One often knows the patient first as friend, and his family is an extension of that friendship. The story unfolds. The doctor is part of it.

A young man is electrocuted on a farm. The doctor is summoned to the scene. He is among the first to arrive. He is there just in time to witness the horrible death, to pronounce the patient, and to do little else for him. But the man has a wife. The doctor advises her to remain in the farmhouse, to shun the scene he has had to see, to avoid the nightmares he will endure repeatedly for months. He calls the man's parents, tells them the tragic news. The man's father has a heart condition; that is part of the equation.

The farm belongs to the doctor, and the doctor is a friend of the young man's father. They have been fishing companions for 20 years. The doctor, at the request of his friend, had allowed the young couple to rent the unoccupied farm where now his friend's son lies dead. Both doctor and friend suffer terrible pain, an irrational sense that each is to blame for the death of the young man. The farm becomes a forbidden place. The fishing companion stays away. The doctor wonders if he can ever live there, as he and his wife had dreamed. The plot of ground where the electrocution took place remains charred. For two summers, nothing grows there.

And then life goes on. The young wife remarries and moves away. The two friends, doctor and fishing companion, in the serenity of a mountain lake, tell each other of their guilt. They forgive each other, nod to each other down the length of the canoe, and then flick out their lines to the trout. Later they will return to camp with their catch, gulp cheap wine from tumblers, and talk about the day. And the doctor will sit back and see himself in life's hard story.

Once, before television and the fast lane, we talked to one another. I like to think that back then, while the rain pounded on the pavement and the elms swayed in protective orchestration overhead, at kitchen tables everywhere conversation swelled with meaning. Phrases like "You really are my best friend" and "Let me tell you how you could be a better friend to me" and "Whatever happens, whatever becomes of you, count on me" were as commonplace as the passenger pigeon. Religion was a feeling back then, not yet relegated to the pitch of Sunday morning TV.

In the country, there are places where these feelings can still be found. And the doctor there is sometimes central to it. He shares with his city colleagues the exciting science that medicine has become. He was trained there. But having camped on a tributary of life's main current, he has avoided much of the consuming business that society has forced medicine to be. Regulation and the paper it breeds; greed and its daughter, litigation; reimbursement and its crafty stalling tactics—all these occupy too much of the city doctor's time.

But there is much that is right with medicine: talking to patients, for example—patients who often become friends rather than adversaries—and hearing their stories and becoming a part of them. And where the urban academician exerts her skill to empathize with the confused, frightened student, who is heavy with questions and self-doubt, and transforms this fledgling with a few short years of training into a physician of the highest order, the rural physician might teach that student instead to hear from patients what often isn't told these days, and to tell patients what their best friends might have said.

What can we hear in these "case histories"? From a country intellectual and my wife's dear friend, a frequent short-notice dinner companion, and, ultimately, my patient: a learned discourse on nature as Nature, now transformed into life's Path, and then—OK, you win—a fourth, transcendental Dimension, which on her deathbed she refers to as He, and corrects with a wink, to She. From a frightened, dying alcoholic who has abused and alienated his family, who themselves now sit in close attention: the rhetorical "is there a god?" transformed into "do you believe in God, doctor?" evolving into "the minister wouldn't bother with me," becoming in the end, a final blessing. From a young girl who has fought Hodgkin's disease for three years and now lies dying, seemingly defeated; a story about how Heaven will be and how lucky she is to be going there, and how, she says teasingly, with her shy, little-girl smile, I should be going there with her.

Let us allow ourselves to become a part of the case history—a part of the stories in which we may play many roles—stories about that moment of sharing, when all defenses are down, when nothing else matters, when the lines of priority are drawn. That is where the greatest reward in medicine can be found. And the greatest of messages can be found in the patient-doctor relationship at the moment of death. It is a sometimes painful, sometimes joyful message, of missed opportunity and chance occasion, of regret and ecstasy, of guilt and inculpability. It is a portrait of the art of medicine, of that mysterious blend of power and human frailty, and of essential empathy for our fellow man. It is an art all doctors intend to practice, whatever it is that may prevent them in the end from doing so, an art that we, as doctors as well as patients, had better guard against losing. MM

Michael LaCombe practices with Oxford Hills Internal Medicine Group in Norway, Maine.

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COVER STORY

UMD Takes the Lead in Training Rural Family Docs

The Secret of Success

. . . .

By Pamela Hill Lampert

Photographs by Rob Levine

WELCOME TO THE AREA
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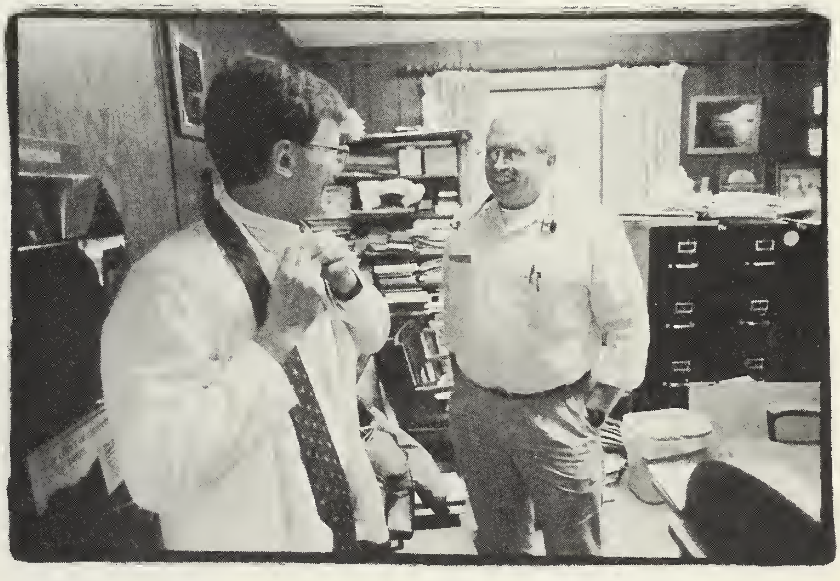
There are two traditional arguments against specializing in family practice. One is that to do the job well, you have to be very smart; the other is that to want to do the job at all, you have to be very dumb.

"Obviously, neither of these arguments is the complete truth, and the arguments together are ridiculous," says Thomas Day, M.D., program director of the Family Practice Residency Program in Duluth. "But that is the underlying attitude present in a lot of medical students and in a lot of physicians: that family practice requires a doctor to be a specialist in too many areas—who could be that smart? And, that family practice doctors are the ones who weren't smart enough to choose a different specialty area in the first place."

If there is a prevalent bias against medical students choosing family practice as a specialty, it's not present in Duluth. The University of Minnesota-Duluth School of Medicine leads the nation in percentages of graduates who become family physicians. And a large number of them choose to practice in rural areas. According to Ronald Franks, M.D., dean of the medical school, 52.5 percent of UMD's medical students choose family practice—that's over four times the national average. And 60 percent of its students settle in non-metropolitan areas—40 percent of those in towns of 20,000 or less.



Preceptor Ray Christensen, one of Moose Lake's four family physicians, with second-year medical student Tim Fursa.

These statistics please Franks because the medical school was established in 1969 specifically to train family physicians to work in rural areas. "Our commitment to that mission is as strong today as it was then," he said. "Now we're trying to find out why it's working out so well. We're trying to unravel it."

James Boulger, Ph.D., director of UMD's preceptor program, looks at national trends and still doesn't see enough family practice physicians coming out of the system. Fifteen years ago, 12.5 percent of medical students nationwide were choosing family practice; today, the figure is about 13 percent.

"For the amount of dollars poured into medical schools to produce more family practitioners, that's not much bang for the buck," says Boulger. "But, when you look at rural economics and our movement from a production society to an information one, maybe we should just feel real good that we're holding at 13 percent! This school and a few others are working hard at it and doing pretty well."

> "We want students to see what's special, fulfilling, exciting about family practice."
>
> *–Ronald Franks, M.D.*

The school is examining patterns, trends, and statistics, searching for its own secret of success. In the meantime, Franks names three prime factors that seem to be working for the school: careful articulation of the school's mission, an admissions committee that embraces that mission, and a nurturing of students' interest in family practice.

"First of all," says Franks, "our mission is quite well known. Students who apply here know what our emphasis is, so, in that way, it's pretty self-selecting." Students don't have to be certain that they want to become family physicians, but many who apply do have that interest.

Once students apply, the school's admissions committee further hones down the list. "This is where it gets a little mysterious because this is not an exact science," says Franks. "Students interested in family practice now may lose or change their interest later on. Outstanding students that any school might be proud to have may simply not fit our mission."

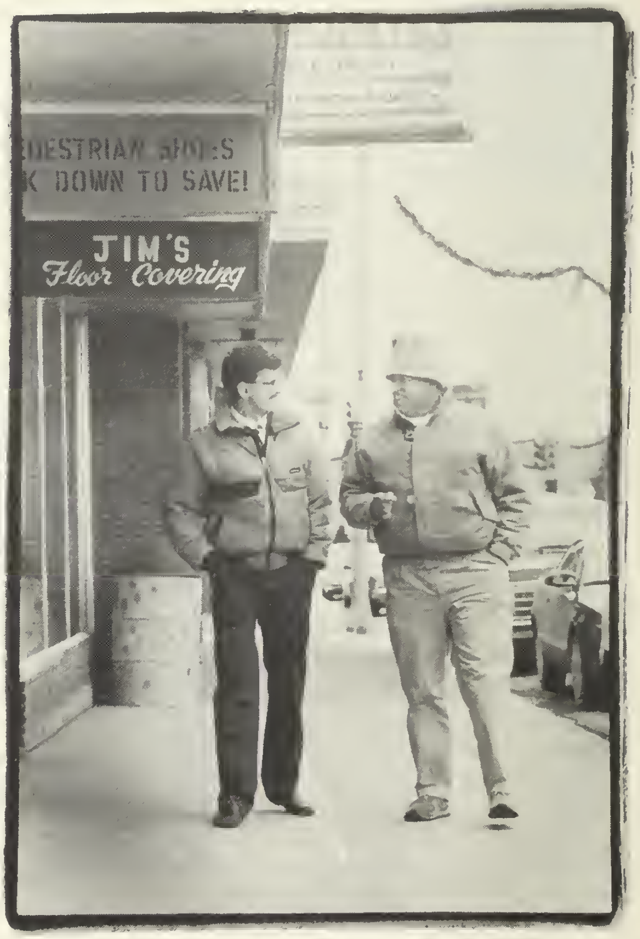
At UMD, geography has emerged as the most powerful predictor of a good match. Students who grew up in a small town are more likely to choose family practice and to settle in a rural area. The admissions committee looks for this, favoring students from small towns who express a strong interest in practicing as small-town or rural family physicians. In fact, about 60 to 70 percent of the school's medical students come from small towns. But beyond that, Franks wonders what the committee is picking up on that gets such strong results. To find out, the school is surveying both rejected and accepted students to evaluate its admissions process.

In describing the third element of UMD's success, Franks said the school works hard to keep its students from getting turned off to family practice and rural work. "There are a number of disincentives to this kind of medicine—reimbursement isn't equal, all rural hospitals aren't thriving, and the workload is typically pretty heavy. We try not to deny this, but to balance it," he said.

That balanced approach helped prepare Bruce Dahlman for the life of a rural physician. Dahlman, a family practitioner in Grand Marais, Minnesota, was in the fifth UMD medical school class.

"I came from Cambridge, Minnesota, and had some of the flavor of rural medicine from role models in my town," says Dahlman. " I chose UMD for its emphasis on family practice, for its smaller class size, the more intimate setting. The school has been actively trying to match people like me to them. They exposed us to family medicine early on in the training process and gave us a real look at what rural medicine is like, with all of the joys and the hardships."

UMD's program covers the first two years of medical



"Reimbursement here isn't equitable," Christensen tells Fursa as they walk in downtown Moose Lake.

training, with the typical emphasis on science and medical basics. Then students move to Minneapolis, where they complete their work.

"There are differences between medical students from UMD and from other schools," says Day, "but not so much in the content of education—it's in the support they've received for family practice. The students get supported strongly for the first two years in Duluth, and then, even when they're in Minneapolis, they tend to stay together—they still have that camaraderie. That support is important.

"At larger, more traditional medical schools, the teaching staff often have less experience in rural family practice. When a student expresses an interest in it, that interest just doesn't get supported. Here, at UMD, students get support because our teaching staff also work every day with physicians in little towns and rural settings. They hold rural physicians in high regard and can honestly support students with an interest in rural medicine," says Day.

"Our program here in Duluth is as strong as any other," Franks says, "but we augment those courses with an emphasis on rural family practice work. We want students to see what's special, fulfilling, exciting about family practice—and the one best way to do that is through our preceptor program."

That program, which won the National Rural Health Association's 1990 award for Best Rural Health Training Program in the nation, works this way: sophomores spend three days each quarter literally living with a selected rural family practice physician who acts as their preceptor.

"Students eat when the doctor eats, sleep when the doctor sleeps, go out on call when the doctor goes out on call, play Nintendo with his kids if that's what the doctor's doing," said Franks. "They get a good sense of not only what rural family practice is like, but of what rural family life is like. For some students, this may be the turning point that decides their future. For others, it may simply demystify the experience."

Says Dahlman, who's been a preceptor since setting up his practice in 1983, "The preceptorships really allow students to see how we blend our lives in a rural setting. We often become a student's first friend in clinical medicine, and someone they turn to for advice as they sort out their choices in medicine. There's a lot to learn in medicine besides the clinical aspects of your specialty."

Moose Lake physician Raymond Christensen has such faith in the preceptorships that he believes there ought to be a mandatory rural family practice rotation for every medical student in the state, regardless of which school the student is attending. "Even if you're going to be a neurologist, you need to know what it's like out here. Nowhere else in our society will you get this kind of responsibility for a community. You're the coroner, the ER doc, the family doc, the obstetrician, the preventive medicine guy—everything," said Christensen, who has been a family practitioner at the Gateway Clinic in Moose Lake (120 miles north of the Twin Cities) for 17 years.

Fursa makes rounds with Christensen. The hospital's typical census runs in the high teens.

Active politically in county, state, and national rural health causes, Christensen serves as one of UMD's preceptors and hosts second-year medical students several times a year. And, although he won't talk about it comfortably, he is also a recipient of the Louis Gorin Award for outstanding achievement in rural health care.

"There are many of us who feel we just aren't seeing rural youth going into medicine these days. If you want rural physicians, you need to put rural students into medicine," says Christensen.

"Something is making medicine unattractive to our top students. Maybe it's the intensity, the missed lunches and dinners, the long hours—what you're seeing today," Christensen says to visiting UMD student Tim Fursa. "We need to spread the message about rural medicine being a good career from kindergarten on up in our rural schools. We need to sell it as being attractive."

Tim Fursa doesn't need to be sold. This "excellent student" (according to Dean Franks) admires many of the qualities found in a rural practice and in rural life. Whether or not he eventually enters family practice in a small town ("I can see myself doing it and being happy, but I'm not totally committed"), Fursa knows he wants to incorporate rural practice values into his practice, wherever it may be.

Originally from Rochester—which the government considers "rural," but Fursa does not—he entered school planning to become a dentist. "I changed my mind between my sophomore and junior years. Medicine seemed more and more interesting, and it seemed like I could help more people in more significant ways as a doctor.”

For many students studying medicine at UMD, that interest is focused on family practice. “Everyone at school is interested in family practice to some extent—we’re all exploring it,” says Fursa. But not everyone will choose it as a specialty, and students are not pressured to do so. “You’re encouraged to go into family practice, but not required to. There are mentors available to us for rural medicine—other specialties don’t offer that in the same way.”

> “If you want rural physicians, you need to put rural students into medicine.”
>
> *–Raymond Christensen, M.D.*

Fursa said he finds many aspects of family practice attractive. “I like learning about all areas of medicine, being a generalist. I like treating all types of people, all age groups, [and being in] all kinds of medical situations. I like the diagnostic challenges that it presents; it’s exciting to me to diagnose. And there’s a lot more to curing the sick than the office visit. Knowing the family, knowing the community, knowing the stresses that patients live with—I do see some doctors putting that information to use in their practices.”

Although he was interested in several medical schools, when he was accepted at Duluth, Fursa stopped pursuing other schools. “I think every student knows the mission UMD has,” he said. “And, not to sound too corny, the relationship between staff and students, and between students and students, is really like a family. The faculty is concerned not only with how well we are doing academically, but with how we’re doing just living.”

Fursa has heard Franks give his list of three reasons UMD is producing record numbers of family physicians, but he says the admissions committee didn’t directly grill him about his interest in rural medicine and that he hasn’t felt continuous pressure to select family practice as his specialty.

“The admissions committee didn’t come right out and ask me if I was totally committed to going into family practice,” Fursa says. “For a student just entering med school, I think the overwhelming answer to that would have to be ‘Gee, I just don’t know yet.’ The committee serves its role well just to understand the individual and where he or she is coming from. Going through medical school exposes you to so many interesting fields. And, although UMD produces 60 percent family practice folks, there’s another 40 percent who are attracted to something else. I’ve never felt pushed in that process. The school is very friendly, very encouraging.”

Boulger believes the key lies in attracting the right students and then keeping them. “We don’t turn them off to family practice. We provide encouragement to coun

RPAP Takes Preceptorships One Step Further

. . . .

The idea of pairing medical students with rural primary physicians early in their education is not unique to UMD. A year after UMD was founded, the state Legislature mandated the beginning of the Rural Physician Associate Program (RPAP), an elective program for third-year undergraduate medical students at the university’s Twin Cities campus. Participants spend nine to 12 months working with a rural family physician. They receive academic credit and about $14,000 in compensation.

RPAP students need make no formal commitment to entering rural medicine, yet the program’s influence is clear. Of the 455 past program participants currently in practice, 62 percent are in Minnesota—59 percent of them in rural locations and 41 percent in urban areas. Only 18 percent of the university’s non-RPAP medical students enter rural medicine.

“We’ve got the best numbers of anyone in the country trying to do this, as far as I’m aware,” says program director and originator John Verby, M.D. “We average 30 to 32 students through the program each year. Right now, we have 29 students and 35 communities that want them.” RPAP students do not live with the physician, but establish their own residence in the community, and RPAP provides each student in the field with a computer, modem, and printer linked to state biomedical libraries.

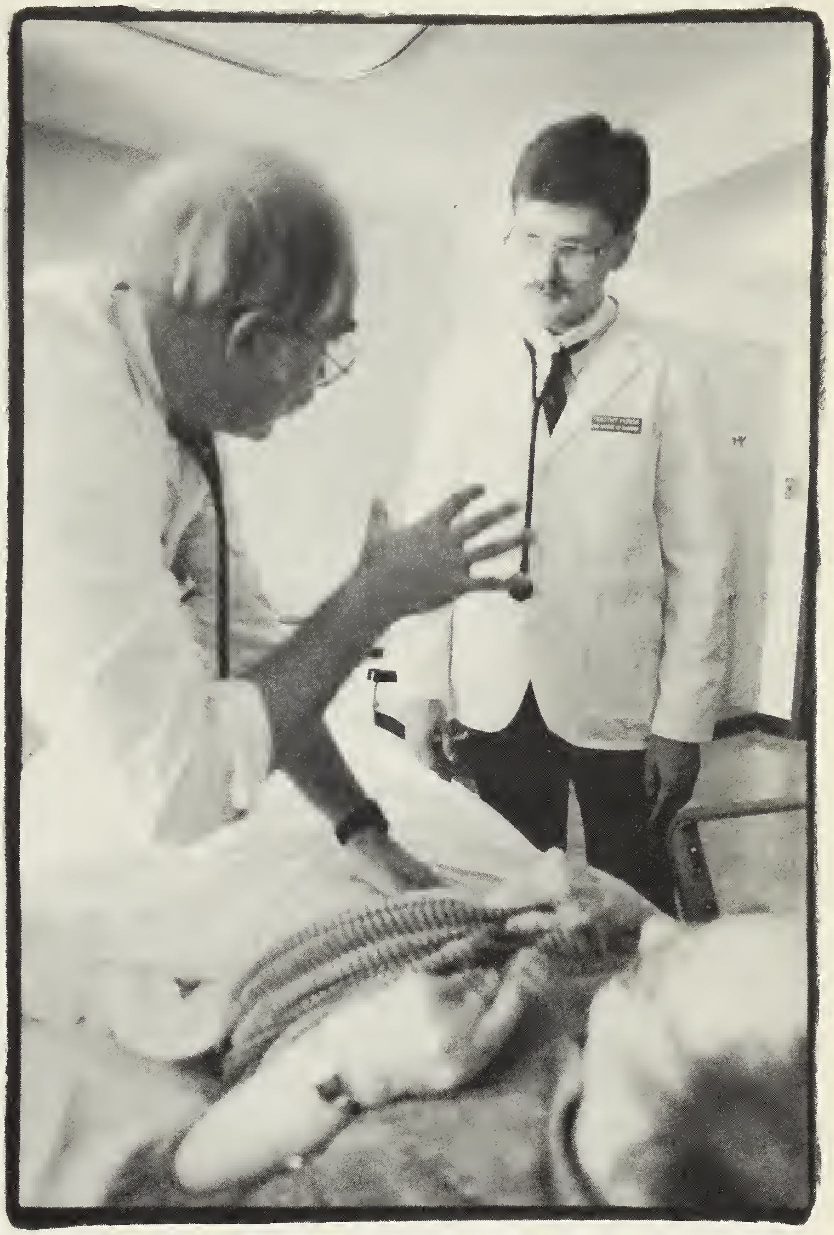
“The student—as well as the physician—can get immediate responses to questions and can be constantly learning,” says Verby. “This actually becomes a kind of mentorship both ways; the physician gets to learn, too. What we’re doing here is unprecedented in medical education. For nine to 12 months, students develop a very personal mentor relationship with the four to five doctors in their practice group, and they get eight to nine hours of direct experience and teaching every day. Other states, other programs, and the American Medical Association have been very excited about it.”

teract the discouragement they might get elsewhere. We try to keep the flame alive here."

Though Fursa might say his interest in rural medicine is still developing, he shows a powerful commitment to health care issues in lower-populated areas. Last summer, he participated in a Northern Lakes Health Care Consortium program designed to foster understanding of rural health care systems. In Big Fork, Minnesota, he studied how rural hospitals work. He has since had discussions with UMD's medical school faculty about integrating this kind of experience into the standard curriculum.

During his first year of medical school, UMD sent Fursa out to Duluth-area family practice physicians to "observe their practice, see a few patients with them, have lunch, stay late, and try to put a little cardiovascular physiology to practical use." During the second year of the award-winning preceptor program, students visit a rural practice for three days each quarter. This year, Fursa's preceptor is Moose Lake's Christensen.

Today, Fursa is visiting Christensen at the Gateway Clinic for the second time. Just after the noon hour, Christensen has made rounds next-door at the 32-bed Mercy Hospital (most days the census runs about 15 to 18), seen 15 patients (the clinic of four doctors averages 104 visits a day), skipped lunch ("That happens a lot"), and said hello to a visiting drug rep. Now he's working in his office, waiting for Fursa to arrive. Orderly stacks of paperwork, newsletters, journals, and books cover chairs, filing cabinets, and every flat surface in the room. There's paperwork on his rolltop desk, too, but it's not orderly. Christensen seems to know what he's looking for and where it might be, but to find it, he has to rearrange drug samples, an asthma inhaler, collections of pens and pencils, envelopes, magazines, and a hunting knife his father made from a deer antler ("I tried hunting twice; didn't like it"). Fursa appears at the door, looking too young to have graduated from college.



Fursa and Christensen with Phyllis Nyrud. "How are you gonna feel that aorta if you don't get down in there?" asks Christensen.

"Did you bring your stethoscope?" Christensen asks. Fursa produces it. "White coat?" It's on a hanger. "Put 'em on, and let's go!" Christensen leads the way down a long hallway from his clinic to the hospital entrance. Gateway Clinic has 20,000 patient charts on file and houses four full-time family practice physicians, one RN, and three LPNs. Christensen and Gregory Peterson, M.D., founded the clinic in 1972.

A farm boy from Wisconsin, Christensen holds an agricultural undergraduate degree from River Falls. He went to medical school in Madison, and says he chose medicine so he could live in a small town but escape the small-town economy.

"I was one of six kids on a small farm, and the dollars were just not there," he says. "One way to bust out was to go to Vietnam, which my brother did, but which I didn't want to do. I went to school in Madison and thought I'd become a veterinarian. Someone asked me, 'Why don't you go into medicine?' and I ended up here."

Rural medicine puts Christensen in a comfortable small-town setting, but it also gives him a cause for his activism: rural health care delivery. Wasting no time on small talk, he spends the short walk to the hospital with Fursa discussing his favorite topic.

"Now, these are just my feelings and perceptions. Perhaps we do suffer from a little 'rural retardation'—maybe our students do enter the educational system a little behind city kids. And maybe that's why rural kids don't go to medical school. The doctor in a small town has to take responsibility to encourage kids from that town to choose medicine," explains Christensen as Fursa listens.

"What we have to do is create rural regionalization. We already have a good emergency medicine system. We work together. We have a responsive trauma system in northeast Minnesota. But, there are still holes out there where there's no care.

"What students coming out of school today want is less call, more family time, enough money to live on, and some nights and weekends off. Like it or not, we have to provide it.

"Spouses are critical in this whole issue, too. Is the spouse willing to live in a rural setting? Can he or she find work here?" Fursa nods—he's just been talking about how he and his wife, Lisa, will decide together where he chooses to practice.

> "We're not just training doctors for northern Minnesota here; we're training rural doctors for all of the state."
>
> *–James Boulger, Ph.D.*

Opening the hospital's CCU door, Christensen says, "As a physician, you're entering a rural community at one of the upper levels of education that community has. Now, that's a responsibility. You do your time on the church committees, city council, school board." Fursa nods.

They're at the bedside of Roy Warloe, a hospital board member who came in this morning with a likely heart attack. Christensen introduces Fursa to Warloe, and has Fursa listen to Warloe's chest, explaining history and treatment as he goes.

Next is Phyllis Nyrud in Med/Surg.

"Can we practice on you, Phyllis?" Christensen asks with a smile. She laughs, and obliges by moving her gown. "You'll get used to seeing tummies after a while," Christensen tells Fursa. "You'll get so you can tell things just by looking at them, so first, observe. Then, percuss . . . if you think you feel something, then—"

"Where do I start?" asks Fursa.

"Usually I start where it's least painful. I like to work from the side you're on. You'll have to try, and see what you like."

"How hard can I press? Should I press?"

"Guarded, at first—but how are you gonna feel that aorta if you don't get down in there? Go easy, see how she is, but then you can waltz on down in there." Christensen squeezes Nyrud's hand on the way out the door, and she waves.

"When I stop and think about why training family practice docs in Duluth is working so well, I remember this," says Christensen. "There is a tradition among Duluth physicians [that started] long before the medical school was established there, of training young physicians in internships with a focus on primary care. Whatever the specialty, that bent toward primary care was still there. In a community like Duluth, the primary care doctor is understood and valued. In a community like Moose Lake, the doctor is an important figure. It feels good to make a difference."

Clearly, UMD's preceptor program is making a difference, but is it a solution to the rural health care crisis? "Partially," says Franks. "There's a shift in the way health care is being delivered. I think we're going to see more 12-to-14-doctor clinics, maybe with 10 to 12 family practice docs, one or two ob/gyns, one internal medicine, one surgeon. These clinics will act as mini-hubs to serve satellite communities. These mini-hubs will become centers for referral to larger hubs in larger communities, working with the network that is in place now."

Whatever shape rural health care delivery takes, UMD is helping to keep the network in place—throughout the state. "We're not just training doctors for northern Minnesota here," says Boulger. "Some people seem to think that. It's not true. We're training rural doctors for all of the state. We send students out all over Minnesota to preceptors, and they always come back smiling. They find out this state has excellent medical care to offer—even in our remote locations."

Although UMD's approach can't solve the entire problem of reaching remote areas with quality health care, Day suggests that medical schools in other states could help by increasing their numbers of new rural family practice specialists using these strategies:

- hire medical school teaching staff who hold rural family practitioners in high regard,
- support students who show an interest in rural medicine,
- give students an opportunity to spend time with rural practitioners early in the educational process, and
- copy successful programs like the Rural Physician Association Program at the University of Minnesota-Twin Cities (see sidebar, page 16).

"For most of us, maintaining a rural lifestyle with a rewarding career is working," says Dahlman. "We have balance. Rural medicine can be a fulfilling practice and a fulfilling life. That's the exciting part. Rural family physicians are sticking to this and making rural practice different so they can stay." **MM**

Pamela Hill Lampert is a free-lance writer, editor, and consultant living in Minneapolis.

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A Snapshot of Tuberculosis in Urban Minnesota

Joan Kovacovich, B.A., Royal M. Becker, B.A., and Neal Holtan, M.D., M.P.H.

ABSTRACT

We reviewed the records of all 66 cases of tuberculosis in St. Paul between 1986 and 1989. Two-thirds of the patients were foreign born. Some of these patients experienced problems in adherence to therapy because of cultural barriers. Resistance of the organism to anti-tuberculosis medications was also a significant problem.

Since 1985, outbreaks of tuberculosis in the United States have occurred in homeless persons,[1] HIV-infected individuals,[2] nursing home residents,[3] and immigrants.[4,5] In St. Paul, Minnesota, no outbreaks or clusters of tuberculosis have been noted in any of these groups, but isolated cases have occurred in each.

Nationally, the number of tuberculosis cases dropped by about 5% a year until 1985. Because of the association between human immunodeficiency virus (HIV) infection and tuberculosis, the number of annual tuberculosis cases since 1985 has not continued to decrease, but has leveled off.[6] Nationwide, about 4% of AIDS patients have tuberculosis.

Members of the general public in Minnesota are often surprised to learn that tuberculosis remains a health problem. And while most physicians are aware that tuberculosis has not disappeared, some younger physicians have never seen a tuberculosis case because of its infrequency, and few physicians have broad experience treating the disease.[7]

This paper is intended to share information with Minnesota physicians about the present scope of the tuberculosis problem in St. Paul.

St. Paul's Tuberculosis Case Register

We reviewed all cases of tuberculosis that occurred in St. Paul residents from 1986 to 1989. Sixty-six cases occurred during that time—23 in 1986, 18 in 1987, 11 in 1988, and 14 in 1989.

St. Paul, a city of 245,000 people, makes up about one-third of the land area and 60% of the population of Ramsey County. Outside of St. Paul, there were only two cases of tuberculosis in Ramsey County in 1986, two in 1987, one in 1988, and three in 1989.

In 1988 and 1989, St. Paul had incidence rates for tuberculosis of 4.1 and 5.3 cases per 100,000 residents, respectively. These rates compare with 7.0 and 7.6 for the same years in Minneapolis, 2.1 and 2.4 for Minnesota, and 9.1 and 9.5 for the United States.[8]

Table 1 lists the site of infection for these cases. There were 16 cases of extrapulmonary tuberculosis, 24% of the total. Extrapulmonary disease made up 18% of U.S. tuberculosis cases.[9]

Patient Characteristics

The most striking attribute of St. Paul tuberculosis patients was the number who were foreign born. Of the 66 patients, 42 (65%) were foreign born. In 18 of these cases, no information was available on how long the patient had been in the United States. Twelve patients were known to have resided in the United States for less than three years, 10 had resided in the United States for three to nine years, and two had been in the United States for more than nine years.

Nineteen (29%) of the tuberculosis patients were non-Hispanic caucasian. Six (9%) were black, and four (6%) were Hispanic. Two (3%) were American Indian. The remaining 35 patients (53%) were Asians, 26 (39% of all cases) of whom were Southeast Asian refugees. The other Asians included four Filipinos, three Chinese, and two Koreans.

Table 2 displays the age distribution of tuberculosis cases in St. Paul.

Source of Diagnosis

Tuberculosis cases in St. Paul were

Table 1

Site of infection, tuberculosis cases, St. Paul, 1986-1989

Pulmonary	50	(76%)
Extrapulmonary	16	(24%)
pleural	2	
lymph	8	
miliary	1	
renal	3	
peritoneal	1	
pericardial	1	

Table 2

Age distribution of tuberculosis cases, St. Paul, 1986-1989

Age in Years	1986	1987	1988	1989	Total
0 - 4		2			2
5 - 14		1			1
15 - 24	2	1	1	2	6
25 - 44	12	6	3	6	27
45 - 64	4	3	3	1	11
≥65	5	5	4	5	19
Total	23	18	11	14	66

Table 3

Source of diagnosis of previously undiagnosed tuberculosis cases, St. Paul, 1985-1989

Source	Cases
Private physicians	20
St. Paul-Ramsey Medical Center/Ramsey Clinic	19
St. Paul Division of Public Health	12
Minneapolis Veterans Administration Medical Center	6
Private hospitals	3
University of Minnesota Boynton Health Service	3
Community Clinics	3
Total	66

identified in a variety of health care settings, public and private (Table 3).

Provision of Tuberculosis Treatment

Table 4 summarizes current regimens used to treat pulmonary tuberculosis.[10-12] Although duration of therapy is shorter than in the past, treatment is still a lengthy process requiring monthly clinic visits, multiple medications, sputum tests, and chest radiographs. Treatment regimens for extrapulmonary tuberculosis are still under study, but the traditional short-course (nine-month) therapy has been shown to be effective.[10,13]

Nine of the patients identified by private physicians in St. Paul were referred immediately to the Division of Public Health for treatment. Many of the St. Paul tuberculosis patients identified at the Minneapolis Veterans Administration Medical Center and at health services or community clinics were also referred to the division for treatment. Patients identified at St. Paul-Ramsey Medical Center were generally treated by Ramsey County pulmonary or infectious disease specialists.

At a physician's request, the Division of Public Health provides free medication for tuberculosis patients who are residents of St. Paul and who do not have other coverage. Patients referred to the Division of Public Health for treatment receive all outpatient tuberculosis care free of charge if they are residents.

Compliance with Treatment

About one-fourth of the patients had significant problems adhering to therapy. Reasons for noncompliance varied. Seven of the 26 Southeast Asian patients encountered problems, possibly because of language and cultural barriers that prevented them from understanding the reasons for medication. One Southeast Asian lacked transportation. Alcoholism figured strongly in noncompliant behavior in some non-Southeast Asians. At times, a patient would suddenly leave the city for a different jurisdiction without any notice. Psychiatric illnesses, including schizophrenia and depression, also complicated treatment in several patients.

Home visits were necessary to ensure compliance in most patients who encountered problems. One patient was finally treated successfully after his school nurse agreed to administer the medications each weekday.

Other difficulties arose in treat-

Table 4

Current treatments for uncomplicated non-resistant pulmonary tuberculosis

	Drugs
Traditional therapy	INH x 18 months RIF x 18 months
Traditional "short-course" therapy	INH x 9 months RIF x 9 months EMB x 3 months after last + sputum
Six-month "short-course" therapy	PZA x 2 months EMB x 6 months INH x 6 months RIF x 6 months
Six-month, twice-weekly, directly observed therapy	SM x 2 months PZA x 2 months INH x 6 months RIF x 6 months

INH - isoniazid
RIF - rifampin
EMB - ethambutol
PZA - pyrizinamide
SM - streptomycin

ment. One patient, who had tuberculosis as a secondary infection, died from AIDS. Four patients developed isoniazid (INH) hepatitis and had to be started on alternative drugs. At the time of diagnosis, four patients—two Vietnamese, one Cambodian, and one caucasian—had histories of INH preventive therapy, but only one of them showed organisms resistant to INH on culture after disease occurred. It was suspected that these patients had not taken the INH preventive therapy as prescribed. Two of the patients verified this, explaining that as new refugees to the United States, they distrusted recommendations for preventive therapy and had discarded the medication. In spite of compliance problems, all the patients completed their therapy courses except one undocumented illegal alien who could not be located again.

Resistance to Anti-tuberculosis Drugs

Of the 50 patients with positive cultures for *Mycobacterium tuberculosis*, 10 patients had organisms that showed some degree of resistance to INH. Seven were Southeast Asian, one was Filipino, and two were Hispanic. Seven of the 10 had complete resistance to INH. Five of the 10 organisms resistant to INH were also partially resistant to ethambutol, and two others were completely resistant. One patient had an organism resistant to rifampin only. These findings are fairly consistent with the number of resistant organisms that would be expected.[14] St. Paul's rate of 10 of 50 cultures resistant to INH (20%) is comparable to rates of INH resistance found among tuberculosis cases in immigrants in the United States in 1980 (Asians 12.7%, Hispanics 12.6%).

Discussion

From 1986 to 1989, 66 cases of tuberculosis were reported in St. Paul residents. Most of these patients were treated at the St. Paul Division of Public Health or at St. Paul-Ramsey Medical Center. Private physicians and other health care providers also provided treatment.

The majority of tuberculosis cases in St. Paul involved foreign-born patients. In 1988, 73% of patients with tuberculosis were foreign born.

Adherence to treatment was a significant problem in approximately one-fourth of the patients. Most problems were minor and easily corrected. Only one patient did not complete therapy. Non-compliance in U.S.-born patients was often associated with alcoholism or mental illness. Southeast Asian patients tended to have problems finding transportation and accepting the rationale for treatment, probably because of language and cultural barriers. Drug resistance was significant, especially in organisms from patients born in Southeast Asia or Mexico.

The occurrence of tuberculosis in St. Paul demonstrates the problems that remain in eliminating the disease in the United States. Foreign-born residents contribute significantly to the incidence rate of tuberculosis, and many of them come from countries with a high occurrence of organisms resistant to anti-tuberculosis drugs. These newcomers face severe social adjustment problems that can interfere with treatment of tuberculosis. Finally, areas that have a relatively high prevalence of HIV infection and clinical AIDS can expect an increased number of tuberculosis cases. **MM**

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The Impact of Diabetes in Minnesota—1988

Jon Roesler, M.S., Michelle Crozier Kegler, M.P.H.,
and Donald Bishop, Ph.D.

ABSTRACT

To assess the impact of diabetes and its complications, state statistics and rates adjusted to Minnesota's population were reported for 1988. We estimate that there were 87,110 persons with diagnosed diabetes and an additional 82,920 with undiagnosed diabetes. There were 556 deaths for which diabetes was reported as the underlying cause. Although diabetes was the seventh leading cause of death in Minnesota, its full impact is not measured by mortality alone, but in combination with the morbidity and disability that it causes. Several statistics and estimates help portray the full impact of the disease and its complications.

Health professionals are increasingly recognizing the impact that diabetes has on the health of our nation, especially as our population ages.[1] Diabetes is a significant contributor to morbidity, disability, and mortality in the United States. It is a major cause of blindness, renal failure, lower extremity amputations, and congenital malformations, and it has been ranked nationally among the 10 leading causes of death since 1932.[2]

Effective prevention and control strategies have been shown to reduce the morbidity, mortality, and cost of diabetes and its complications.[3] Many public health agencies, hospitals, clinics, and voluntary organizations are planning and implementing interventions to reduce the burden of diabetes and its complications. Consequently, some estimate of the impact of diabetes is needed to guide policy and program development.

Knowledge of the impact diabetes has in the population provides important information that serves several purposes. First, it allows estimation of the magnitude of medical care, public health, and community resources that will be required to care for persons with diabetes. Second, it facilitates planning for programs to control and prevent the disease and guides in planning research. Third, it aids in assessing diabetes' impact on the community, helping to place the disease in its proper perspective as compared with other competing priorities and helps to determine the appropriate allocation of resources.[4]

As in other states, Minnesota has not had an ongoing system for the regular and timely gathering, analysis, and release of information for assessing the statewide impact of diabetes. Nonetheless, several studies have been done on populations similar to Minnesota's, and when these results are combined with vital statistics and population demographics, reasonable statements can be made about the magnitude of diabetes and its complications in the state.

This paper examines statistics and rates from several readily available data sources and, when necessary, adjusts them to Minnesota's 1988 population. That year was the latest for which population estimates and data sources were readily available. Because each data source has its own shortcomings, its limitations are noted with each report or estimate. The statistics and estimates are generally presented in order of decreasing confidence and are summarized in the table.

Mortality

Underlying and contributing causes of death were obtained from information provided on the death certificates. Mortality ranking information was obtained from the underlying causes of death.

Diabetes is the seventh leading cause of death among Minnesota residents,[5] as well as among United States residents.[6] In 1988, 35,436 Minnesotans died.[7] Diabetes was reported as the underlying cause in 556 of these deaths. It was listed as a contributing cause of death in an additional 2,250 decedents.

Limitations: Diabetes is recorded as the underlying cause of death on only 20% to 25% of the death certificates where it appears on any field (underlying or contributing). In addition, it is listed on the death certificates of only about 50% of decedents who have diabetes at the time of death. Diabetes often is considered an unimportant factor contributing to death, and, thus, it is often disre-

Table

The impact of diabetes in Minnesota—1988

Prevalence of diabetes (estimated)	
Diagnosed	87,110
Undiagnosed	82,920
Total	170,030
Mortality due to diabetes (reported)	
Diabetes as underlying cause	556
Diabetes as contributing cause	2,250
Total	2,806
Maternal diabetes during pregnancy (reported)	
Pre-gestational	268
Gestational	1,052
Congenital malformations and anomalies associated with maternal diabetes (reported)	
Associated with pre-gestational	13
Associated with GDM	13
Fetal death associated with maternal diabetes (reported)	
Associated with pre-gestational	6
Associated with GDM	2
Treatment for diabetic end-stage renal disease (reported)	
Incidence (initiating treatment)	185
Prevalence (receiving treatment)	689
Diabetes-related lower extremity amputation (estimated)	
Incidence	678
Diabetes-related blindness (estimated)	
Incidence	116
Hospitalizations directly attributed to diabetes (estimated)	
Number	4,582
Hospital Days	28,069
Cost (@ $965.57/day)	$27.1 million
Hospitalizations attributed to chronic complications of diabetes (estimated)	
Number	7,714
Hospital days	71,386
Cost (@ $965.57/day)	$68.9 million

garded by physicians completing death certificates.[8,9]

End-stage Renal Disease

The incidence and prevalence of end-stage renal disease (ESRD) in diabetes was based upon data provided by the Medicare End Stage Renal Disease Network 11 of the Upper Midwest.[10] These data represent the actual number of new patients with ESRD cases who began and received Medicare-reimbursed dialysis in 1988. The Medicare program provides reimbursement for more than 90% of ESRD treatment in the United States and maintains information that provides a basis for ESRD surveillance.[11,12]

The number of new ESRD cases has been generally increasing during the last decade, from a low of 57 incident cases in 1979 to a peak of 202 incident cases in 1987. There were 185 incident cases in 1988, and 689 prevalent cases as of December 31, 1988. Diabetes is now the single most frequent reason for beginning treatment of ESRD.[13,14]

Limitations: These data include only ESRD patients who have chosen to receive dialysis. Many patients with diabetes may not undergo renal replacement therapy, especially if they are elderly and suffering from other complications of diabetes. Such situations, of course, ultimately result in death. Estimating the full impact of these additional cases is problematic because ESRD often is not listed on the death certificate.[15]

Pregnancy

Patients suffering diabetes during pregnancy can be classified broadly into two groups: women who suffer from gestational diabetes (GDM) and women with diabetes known to exist before pregnancy. The distinction has considerable importance because, although the incidence of GDM is substantially greater than pre-gestational diabetes, the potential for adverse outcomes is significantly greater with the latter.[16] The data for diabetes-related births were based upon 1988 Minnesota birth certificates. The fetal death data came from the state's certificates of fetal death.

In 1988, 262 Minnesota women with pre-gestational diabetes were recorded as having given birth. Of the infants, 13 were noted to have some congenital malformation or anomaly at the time of birth. Six fetal deaths were associated with the mother's pregestational diabetes.

In 1988 1,050 infants were born to mothers with GDM. Of these infants, 13 were noted to have some congenital malformation or anomaly at the time of birth. Two fetal deaths were associated with the mother's GDM.

Limitations: Vital records are not considered a good source of data because birth certificates are often inadequately completed, and it is not always clear whether the diabetes was pre-existing or gestational. Population-based studies have suggested that the prevalence of pre-gestational diabetes in pregnancy is between four and 15 per 1,000 pregnancies.[16] Applying these rates to the 66,745 births that occurred in the state in 1988,[7] the estimate of the actual number of pregnancies involving diabetes ranges from 267 to 1,001.

Estimates of the prevalence of GDM in the general population range from 25 to 50 per 1,000 live births.[16] Applying these rates to births that occurred in 1988 among Minnesota residents, the estimate of the actual number of pregnancies with GDM ranges from 1,668 to 3,337.

The reporting of pre-gestational diabetes on the birth certificate appears to be more complete than the reporting of GDM. However, many congenital malformations or anomalies do not become apparent until after the child's birth, and, therefore, are not recorded on the birth certificate. Minnesota does not have a comprehensive congenital anomalies registry to combine with birth certificate data.

Prevalence

The number of persons with diagnosed diabetes in Minnesota was estimated in two ways. First, data obtained from the Minnesota Three Cities Study[17] were age- and sex-adjusted to the 1988 estimate of Minnesota's population.[18] Second, data obtained from the Second National Health and Nutrition Examination Survey (NHANES II)[19] were age-adjusted to the same population. NHANES II provided rates of both diagnosed and undiagnosed diabetes.

Prevalence from the Three Cities Study yielded an estimate of 87,110 persons with diagnosed diabetes in Minnesota. Adjusting the rates for persons with undiagnosed diabetes from the NHANES II population to the Minnesota population yielded an estimated additional 82,920 people with diabetes. (Adjusting the NHANES II rates for persons with diagnosed diabetes to the Minnesota population yielded an estimate of 109,947 persons.)

Limitations: The population-based methodology of the Three Cities Study provides a good estimate of the number of persons with diagnosed diabetes in Minnesota. The prevalence reported by the Three Cities Study was not statistically different from that reported for Rochester, Minnesota.[20] The Three Cities Study looked only at diagnosed cases, which account for about half the prevalent cases of diabetes. It examined predominantly white populations, so applying these estimates to Minnesota assumes that Minnesota's population is predominantly white. This assumption is not entirely unreasonable; Minnesota's population is only about 3.5% to 4% nonwhite.[21] However, as two of the largest minority groups in Minnesota (black and American Indian) suffer from diabetes at significantly higher rates than do whites,[19,22-24] a somewhat higher prevalence of diabetes could be expected.

The NHANES II study is also population-based and built on sound methodology, representing a broad cross section of the United States. It perhaps portrays the potential for diabetes in Minnesotans, both in the number of persons with diagnosed diabetes and in the number of persons with undiagnosed diabetes.

It should be noted that the rates provided by the Three Cities Study and the NHANES II are less than those estimated from the 1987 National Health Interview Survey (NHIS). Adjusting the NHIS rates for age, race, and sex, the Centers for Disease Control estimated that there were 111,300 persons with diagnosed diabetes in Minnesota in 1988.[12]

Lower Extremity Amputation

The rates used for the estimate of lower extremity amputation (LEA) were obtained from the often-cited paper by Most and Sinnock.[25] Their estimated rates for LEA among persons with diabetes (based in part on Minnesota data) were age-adjusted to the estimates of persons with diagnosed diabetes derived from the Three Cities Study.

An estimate of 678 LEAs in 1988 among persons with diabetes was obtained.

Limitations: With this procedure, two sets of estimates were developed. First, the number (prevalence) of persons with diagnosed diabetes, along with the group's age and sex distribution, was estimated. From this estimated population, the number of LEAs was estimated. Going through two estimation procedures weakens the confidence in the number of LEAs. This limitation is also true for the following estimates of diabetes-related hospitalizations.

In developing the rates of LEAs, the sample used by Most and Sinnock represented hospital discharges and not individual patients. Thus, some people who were hospitalized on more than one occasion for the same amputation may have been counted more than once.

Hospitalization

Estimates of diabetes-related hospitalizations and the associated costs were based upon a 1988 study conducted for the American Diabetes Association.[26] Age-specific rates were adjusted to the 1988 diabetic population estimates based on the Three Cities Study, then multiplied by the mean length of stay associated with the condition and age group, and then multiplied by $965.57 (the 1988 average per-day hospital charge in the Twin Cities metropolitan area).[27] The number and associated cost of hospitalizations were calculated for hospitalizations directly attributed to diabetes and for hospitalizations attributed to chronic complications of diabetes.

The number of hospitalizations directly attributed to diabetes was estimated to be 4,582, with an associated annual cost of $27.1 million. The estimated number of hospitalizations attributed to chronic complications of diabetes was 7,714, with an associated annual cost of $68.9 million.

Limitations: Minnesota, unlike many other states, does not have a statewide data base of hospital discharge information to provide a good estimate of diabetes-associated hospitalization costs. However, there is a data base of discharge information from the 23 hospitals in the Twin Cities metropolitan area. These hospitals account for the majority (approximately 75 percent) of hospitalizations in the state. From this data base, the average per-day hospitalization charge was calculated. This charge was the average for all hospitalizations, regardless of the diagnosis, and may not be representative of diabetes-associated hospitalizations.

Blindness

Almost all estimates of diabetes-related blindness are based upon a 1970 survey, which found that diabetes was the leading cause of new adult blindness. Estimates of legal blindness in the United States for 1978 were reported by the National Society to Prevent Blindness from Model Reporting Area Registry data, which had been collected in December 1970.[28]

Calculating rates for reported age groups of cases based upon estimates of the 1978 U.S. population[29] and age-adjusting them to estimates of Minnesota's population in 1988 yielded an estimate of 116 incident cases of diabetes-related blindness in Minnesota for that year.

Limitations: The rates available for estimating the number of blind diabetics are generally dated and inaccessible. Consequently, the estimates developed are only "ball-park" numbers. The softness of the data is shown by estimates that the Centers for Disease Control developed. Using their rates and age-adjusting to Minnesota's population, an estimated 78 cases of diabetes-related blindness occurred in 1988.[12] Statewide and nationally, the improvement of data on diabetes-related blindness is one of our greatest data needs.

Commentary

Mortality data clearly understate the impact of diabetes on our society by inadequately portraying the significance of the disease. Diabetes was the seventh leading cause of death in Minnesota in 1988. Yet the tremendous impact of diabetes is not in the deaths it causes, but in the morbidity and disability that arise from its complications. The estimates of hospitalization costs associated with the chronic complications of diabetes most clearly show this. Those costs were two and one-half times the costs directly attributed to diabetes.

These estimates on the impact of diabetes in Minnesota are conservative and, if in error, tend to understate the impact of diabetes on the health of Minnesotans. The lack of readily available data from statewide sources has made the provision of more accurate estimates difficult and time consuming. (The feasibility of an ongoing diabetes surveillance system is being explored by the Minnesota Department of Health.) Nonetheless, it is hoped that the provision of these estimates will facilitate discussion of the importance of diabetes within our society.

Because several of the estimates were developed from populations other than those in Minnesota, questions of their validity remain. In order to adequately inform and educate those who formulate policy and allocate scarce resources, valid statewide data sources must be identified and developed. The data must be sufficiently detailed for analysis of smaller racial, ethnic, and socioeconomic groups and geographically clustered populations. In addition, potential users of these data will need to have timely access to the information.[30] In order to develop an improved approach to the control of diabetes, better state data are needed. MM

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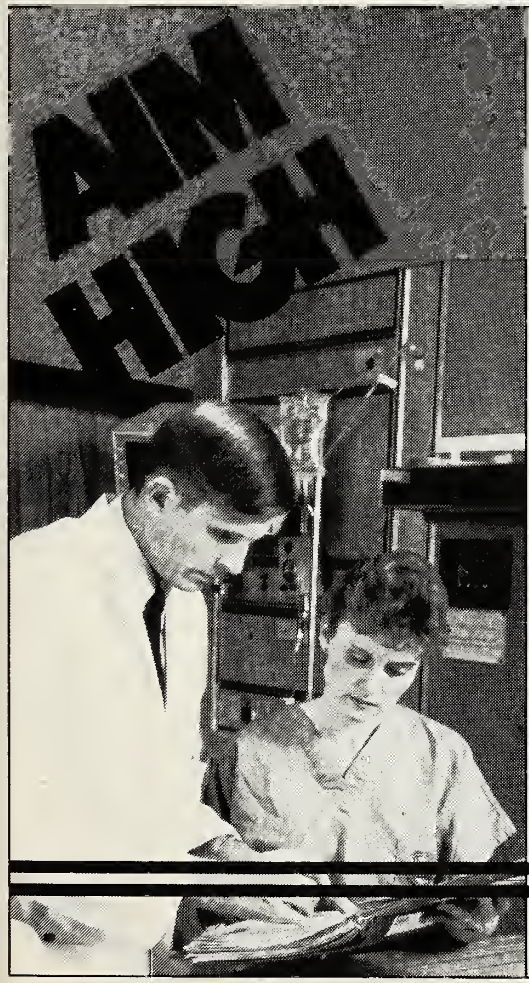

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Nurse Practitioners' Delegated Prescribing Authority

Minnesota Medical Association Legislative and Policy Staff

Physicians are allowed to delegate prescribing authority to certified nurse practitioners under legislation adopted by the 1990 Minnesota Legislature (Chap. 483, Minnesota Laws 1990). Nurse practitioners eligible for delegated prescribing must 1) have graduated from a program of study for advanced practice as a nurse practitioner, 2) be certified as a nurse practitioner through a recognized national professional nursing organization, and 3) have a *written agreement* with a physician based on standards established by the Minnesota Medical Association (MMA) and the Minnesota Nurses Association (MNA) that *defines the delegated responsibilities related to the prescription* of drugs and therapeutic devices" (emphasis added).

Although this delegated prescribing authority may seem to be charting new territories in prescribing practices, there is some precedent in Minnesota law. Since 1988, Minnesota law has allowed delegated prescribing to registered nurse midwives who practice in conjunction with a physician. The intent of the new legislation is very similar.

History of the Legislation

Minnesota law Chapter 483 required the Minnesota Medical Association and the Minnesota Nurses Association jointly to establish minimum standards for written practice agreements between physicians and nurse practitioners before the law became effective on August 1, 1990.

The MMA and the MNA held a series of meetings in July to attempt to develop these joint standards. Because the August 1 deadline left little time to obtain adequate input from the many physicians and nurses affected by this law, the MMA and MNA agreed to and signed temporary joint standards to be effective through January 23, 1991—six months after the signing date.

The MMA and the MNA have continued to discuss the standard practice agreement with their members and have signed a new joint memorandum of understanding that establishes permanent minimum standards for written practice agreements between physicians and nurse practitioners. The standards, which appear on page 32, are very similar to the temporary joint standards agreed to six months ago.

> "The standards developed by the medical and nurses associations are *minimum* standards only."

The Practice Agreement

Written practice agreements between physicians and nurse practitioners require much thought and discussion. The standards developed by the medical and nurses associations are *minimum* standards only. To assure that high-quality patient care is maintained, the practice agreement should include as much detail as possible to help clarify the health care providers' roles.

Physicians must remember that while the law allows the delegating of prescribing authority, it does not allow the delegating of responsibility. As a supervising physician in a delegated prescribing relationship, the physician has the ultimate responsibility for ensuring that the nurse practitioner is practicing within his or her scope of practice and not prescribing drugs he or she does not thoroughly understand.

The joint standards require that a practice agreement reflect the "mutual trust and effort" between the nurse practitioner and the physician as well as reflect their individual experience and knowledge. Each nurse practitioner to whom prescribing is being delegated must have a separate practice agreement signed by at least one supervising physician. The practice agreement must be developed jointly by the nurse practitioner and supervising physician and must be reviewed at least annually, or whenever it is amended.

At a minimum, the practice agreement must include:

1. Name, practice address, and phone number of the nurse practitioner;
2. Specialty of the nurse practitioner;
3. Name, practice address(es), and phone number(s) of the supervising physician(s);
4. Specialty(ies) of the supervising physician(s);
5. General comments concerning the nurse practitioner's practice;
6. *Each* drug or device the nurse practitioner may prescribe, including the total number of refills allowed without physician review; and
7. Minimum frequencies and schedules for review of the nurse practitioner's prescriptive practice (chart reviews).

Again, these standards are the minimum requirements for all practice agreements—the more detail provided the better the working relationship will be. Requirements 5, 6,

MNA/MMA Nurse Practitioner Prescribing Memorandum of Understanding

Standards for Written Practice Agreements

Nurse Practitioner/Physician Model Practice Agreement

This joint memorandum of understanding has been developed to assure minimum standards in the preparation of agreements for the delegation by physicians of prescribing authority to qualified nurse practitioners. The legislation passed by the 1990 Legislature very clearly allows the delegation of prescribing authority but not the total delegation of physician responsibility. As part of the delegation of prescribing, the physician has responsibility to supervise the performance of that delegated prescribing function, and the nurse practitioner has responsibility to act within the nurse practitioner scope of practice and within his or her individual practice agreement. The supervising physician and the nurse practitioner need to be acutely aware of their relationship and the need for a detailed, thoroughly discussed practice agreement. This memorandum of understanding directs the minimum amount of information to be contained in the physician/nurse practitioner agreement. Physicians and nurse practitioners are encouraged to be as specific as possible when describing their individual agreements.

Development

- Development of a practice agreement is a complex task. The practice agreement reflects mutual trust and effort between a nurse practitioner and a physician and the knowledge and experience of a nurse practitioner as well as that of a physician.
- A therapeutics resource manual may be used as a guide in the development of practice agreements.
- Practice agreements must be developed jointly by nurse practitioner and physician. Each nurse practitioner must have a signed practice agreement with at least one supervisory physician.
- A separate practice agreement must exist with each nurse practitioner.
- A practice agreement must be developed and executed prior to delegation of prescribing to a nurse practitioner.

Annual Review

- Nurse practitioners and physicians must jointly review, sign, and date their practice agreements at least annually, and whenever the situation calls for amendment.

Previously Existing Practice Agreements

- Practice agreements existing prior to the 1990 amendments to Minnesota Statutes, Chapter 148, must be reviewed and brought into line with the current MNA/MMA memorandum of understanding. Any existing practice agreements should be reviewed and dated following the execution of this memorandum of understanding. Practice agreements must include:

1. Name of nurse practitioner, practice address(es), and phone number(s);
2. Specialty certification of nurse practitioner;
3. Name of supervising physician(s), practice address(es), and phone number(s);
4. Specialty of supervising physician(s);
5. The practice agreement shall contain general statements describing the nurse practitioner's practice, e.g., nature and size of the practice, acuity of patients, geographic location, and experience and specialty of the nurse practitioner and physician;
6. Each drug or device the nurse practitioner may prescribe and the total number of refills without the physician's review shall be listed in the practice agreement along with any other specific limitations placed by the supervising physician;
7. The supervising physician and nurse practitioner will regularly review the nurse practitioner's prescriptive practice to assure that the standard of care to which the physician is held is maintained. The practice agreement shall establish minimum frequencies and schedules for review of prescriptive practice based on the nature of the practice, patient acuity, geographic location, and experience and specialty of the providers.

MNA/MMA Review

- This memorandum of understanding will take the place of any previously existing memoranda and will be reviewed again by the MNA and the MMA by July 1, 1993.

Addendum

- The MNA and the MMA believe that nurse practitioners should not be required to file practice agreements with the Board of Nursing; however, the Board of Medical Examiners and the Board of Nursing may, from time to time, have access to physician/nurse practitioner practice agreements, through their respective licensees.

and 7 are especially important elements of a good practice agreement.

Examples of the general statements referred to in item 5 could include the general types of patients seen in the practice, the number of physicians and nurse practitioners in the practice, whether physicians will be on site with the nurse practitioner, and any overall limits to the nurse practitioner's prescribing. These statements can help to clarify the working relationship of all providers involved.

In fulfilling requirement 6, it is essential that the list of drugs the nurse practitioner may prescribe be highly specific. However, this does *not* mean listing every drug known to the practice or attaching the Medical Assistance drug formulary so every time a new drug becomes available it is covered. From a physician's perspective, this listing is the most important aspect of the practice agreement, and its development will require the physician to conduct a detailed review of the nurse practitioner's practice. The physician also must assess his or her confidence in the nurse practitioner.

Requirement 7 also is of importance to physicians in terms of risk management and documentation. The frequency of review may vary depending on working relationships and confidence in individual nurse practitioners. However, periodic case reviews, whether they are daily, weekly, or monthly, are critical to assure quality and reduce liability risk.

Other Allied Health Providers

The joint standards discussed here relate only to the delegation of prescribing authority from physicians to nurse practitioners. However, delegated prescribing is an issue with other allied health providers as well. Currently, the Minnesota Department of Health is developing rules to implement a similar 1990 law allowing delegated prescribing to physician assistants. Those rules will become effective in July 1991.

As the shortage of physicians in rural areas continues to grow, physicians can expect increasing pressure to delegate more authority to other providers. Detailed practice agreements and appropriate supervision are essential to protect physicians from undue liability risk as related to both malpractice and licensure, and, more important, to ensure high-quality patient care. MM

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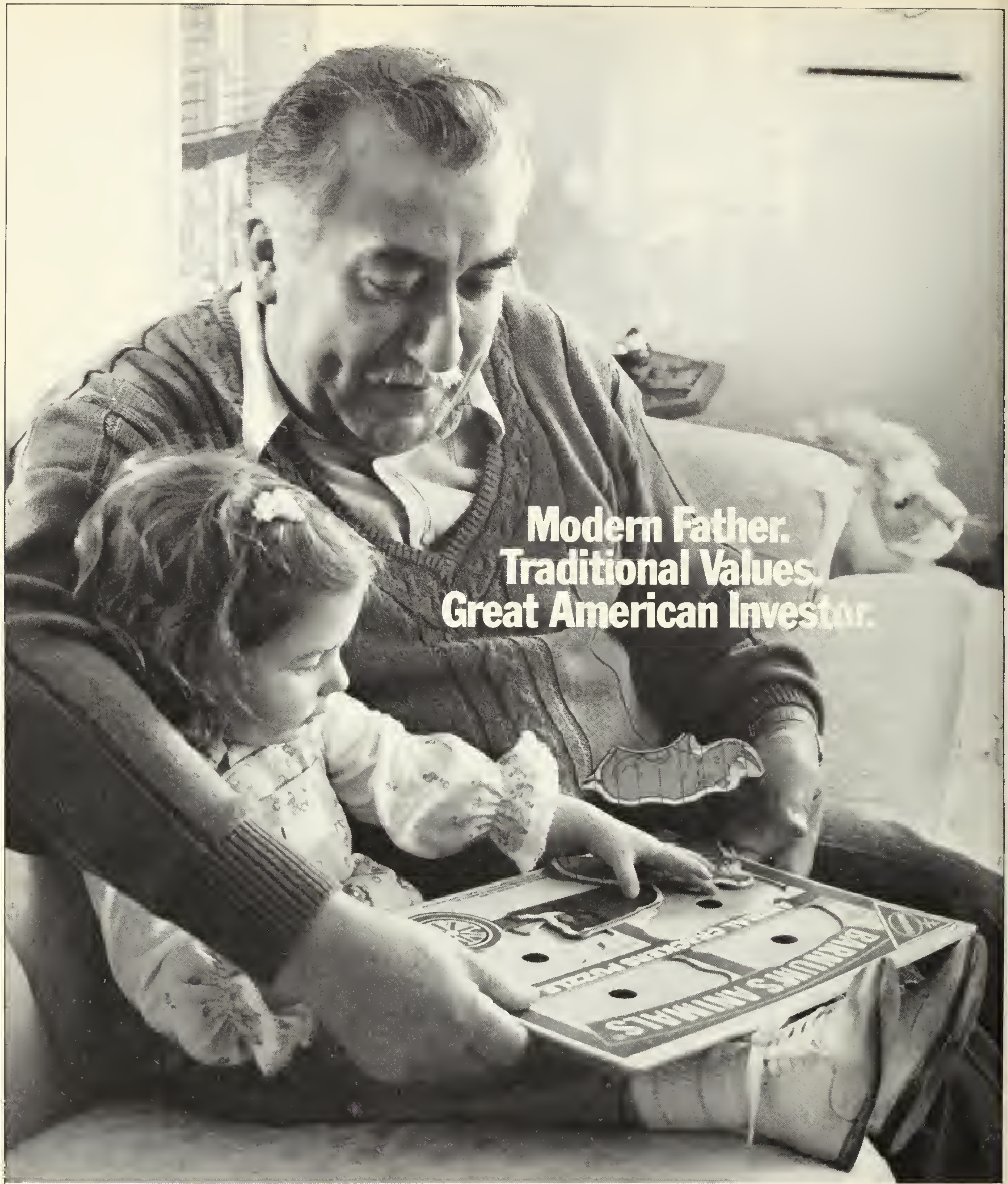
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Strategy and Change in the Medical Clinic

John Johnson and Tom Galligan

"Without competitors there would be no need for strategy."

Kenichi Ohmae,
The Mind of the Strategist

The Premise

Is there a need for strategy in medicine today, or isn't there? Competition in medicine is stronger now than at any previous time, especially in Minnesota, and by design it will grow even stronger. Medicine must have strategists to deal with competition, but when physicians delegate strategic thinking to others, they surrender health care leadership to others.

Physicians and Strategic Thinking

Strategic thinking involves making critical choices. For a physician, the process of making critical or strategic choices begins with the decision to become a physician and continues throughout practice. In medical school, the student decides what specialty to practice and what residency program to follow. The physician selects either a solo, single specialty, or multispecialty practice setting, a geographic location, and partnership requirements. Over time, these choices dramatically affect the physician and his or her family.

As the physician becomes established in practice, new choices present themselves:

- Should our group add another partner? If so, in what specialty?
- Should we open a satellite office?
- Should we purchase or lease a new piece of equipment?
- In which health plans should we participate? What level of reimbursement do we need?
- Should we consider affiliating with another group? Under what conditions?

In addition to making decisions concerning office practice, physicians participate in a multitude of relationships and assume numerous responsibilities. Following hectic schedules, physicians handle staff duties, committee assignments, and professional association responsibilities. They resolve patient complaints and concerns, participate in community events, and take advantage of financial investment opportunities.

> "When physicians delegate strategic thinking to others, they surrender health care leadership to others."

The physician must at once be a healer, counselor, negotiator, arbitrator, medical staff member, health plan representative, and partner, as well as spouse and parent. These roles involve obligations, responsibilities, challenging questions, and often, critical choices.

Physicians must think strategically in order to make sound decisions that will aid their achievement, help them to focus time and personal resources on what is really important, and assist them in establishing advantages in a competitive environment.

One problem with such decision making is that physicians tend to shy away from strategic thinking because they don't feel comfortable with it. The nature of their profession leads physicians to be more oriented to immediate, empirical evidence and less interested in future unknowns. They prefer detailed information to broad-stroke big pictures.

But strategic thinking depends upon anticipating the future and analyzing broad-stroke big pictures as well as relying on empirical data. Physicians tend to find such strategic planning unpleasant or at least unfamiliar, and, therefore, they often delegate it to clinic staff, hospital administrators, or medical societies, virtually abdicating their strategic leadership. But physicians can incorporate strategic thinking into their practice decisions and take a leadership role in doing so.

Becoming a Better Strategist

Strategic thinking is not difficult. The first step is simply to believe that strategic thinking is necessary and set aside regular time to do it—alone and with your partners. When making strategic decisions, move beyond the everyday details of the practice and think about your patients, your competition, and all aspects of the practice. Consider the following:

Patients: Who are your patients? Individuals, families, groups? What are their characteristics? Why are they your patients and not someone else's? What are the emerging needs (in the near future) of your patient base? Which of these needs do you want to care for? With which patient groups do you tend to have the greatest success? Why? What additional services (and related equipment and professional resources) would fit your patients' emerging needs? Which patients might not fit your future practice as well? Which current services might you de-emphasize accordingly? Where are your patients? Are you in the right place geographically for them? What do they think of you? Consider adopting a patient-centered approach to your practice and emphasizing it more than your competition does.

Competition: Who is your competition? What are they doing? In what ways are they more successful than you are? How do they serve the same market? How do they perceive you? What are they planning to do in the future? What gaps in the market do they fill or not fill? What advantages do you have over them? They over you? Identify the value (benefits minus costs) that you both provide the same patient.

Your practice: Be ruthless in evaluating your practice's strengths and weaknesses. Think of ways you could apply your organization's strengths to new services, new patients, and new approaches to the practice of medicine, healing, and health education. Allow yourself to think in futuristic, and even outlandish, ways. What are the real costs of each part of your practice? Which elements are too costly for their return? How well do you do financially with each part of your practice and with each payment plan? What do you like about your practice? What do you dislike? What are the major threats to your practice (including changes in regulation, technology, demography, economy, competition, and even yourself)? What opportunities have opened because of these changes? If anything were possible, what vision of your practice would be most appealing?

After analyzing your patients, your competition, and your practice, consider taking the following actions:

- Conduct your own market research by using the obvious and most accessible sources of data. Look at the patterns and changes in the performance data from your own clinic and hospital. Survey your patients. Talk with payers and employers. What information hits you between the eyes? If more refined and careful research is needed to substantiate what seems apparent, seek outside help for additional market research. Don't just plan for what you think will happen. Plan for what you know will most likely happen.
- Establish a common-sense process for thinking through and discussing the options for change with your partners and others whose opinions you value. The process will help you become disciplined in strategic thinking, and it will help you recognize progress along the way. The process should help you to clarify issues that previously had seemed muddy and ambiguous. The answers to strategic questions are not obvious, but a thinking process will eventually shed light. If you need help selecting a strategic thinking process that makes sense for you, ask a strategic thinking professional or read a book on the subject, such as: *The Mind of the Strategist* by Kenichi Ohmae (Penguin Books, 1983) or *Top Management Strategy* by Ben Tregoe and John Zimmerman (Simon and Schuster, 1980).
- Take action in creating change within your practice. Do what the strategic thinking leads you to do. This might mean shifting your thinking about your practice and establishing new or different relationships. Creating change will necessitate helping others in your practice to understand and become committed to your changes. Invite them to help discover new ways to achieve your common goals. Then reward them as you are rewarded. Model behavior for them that fits the new practice priorities.

Beyond Your Own Success

Strategic thinking is essential in the competitive health care environment. Physicians need to do their own strategic thinking to make the best long- and short-term critical choices regarding their practice. First, practice with the questions presented here, then move on to other questions, involving other professionals or advisers as the need arises. Finally, don't just think and discuss, take action by creating appropriate changes.

Strategic planning is about more than business choices and dollars. It is at the very center of control and direction in health care systems. Physician involvement in strategic thinking and change is important not only to the success of the physician's practice or clinic, but more important, to the physician's leadership in health care. The future quality of health care is dependent upon the strategic thinking of physicians. MM

John Johnson is president of Changemaking Systems, Burnsville, Minnesota. Tom Galligan is president of Midwest Health Care Group. Both have worked with physicians and other health care professionals over the past two decades in helping them to make and implement critical choices.

RURAL HEALTH:
Harvesting Our Experience
National Rural Health Association
14th Annual National Conference
May 19–22, 1991
Seattle, Washington

The Promise of Medicare Payment Reform

Richard B. Tompkins, M.D.

Our hopes for Medicare payment reform could be dashed if Congress persists in making unwarranted predictions about physician behavior and fails to use an adequate conversion factor to set fees.

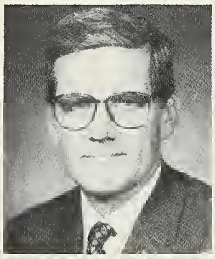
The new Medicare payment system was intended to raise payment for primary care physicians, especially those in rural areas, and to redress the geographic inequities in reimbursement rates. It should be good news for Minnesota physicians, some of whom are reimbursed at rates that are among the lowest in the nation for their services to Medicare patients.

But physician disillusionment is growing in the wake of the Medicare cuts in OBRA '90. The AMA predicts that fees for 60 percent of physician services will be lower in 1991 than they were in 1990. Faced with a mounting deficit, Congress seems determined to hold down Medicare spending. In this economic climate, it will be vital for the MMA to closely monitor the implementation of the fee schedule. Several factors could undermine Medicare reform.

Let's review the complex method that Medicare will use to compute physician payment. The resource-based relative value scale (RBRVS) was designed to redistribute Medicare dollars among physician specialties and to improve access to health care in rural areas. It has three components:

1. work, which measures physician time and effort;
2. overhead, which measures office space, non-physician labor, and medical equipment and supplies; and
3. professional liability insurance.

Each of these three components will be multiplied by a corresponding geographic practice cost index (GPCI, pronounced "gypsy"), and the sum of those three will be multiplied by a conversion factor. The GPCIs are intended to measure the differences in practice costs among geographic areas. The formula is as follows: (work RBRVS X work GPCI) + (overhead RBRVS X overhead GPCI) + (malpractice RBRVS X malpractice GPCI) X conversion factor = Medicare fee.



"Physician disillusionment is growing in the wake of the Medicare cuts in OBRA '90."

The Conversion Factor

The conversion factor poses the greatest potential danger. Congress has ordered the Health Care Financing Administration (HCFA) to set a conversion factor that will guarantee that Medicare spending for physicians' fees does not increase under the RBRVS system. In order to fulfill this mandate, HCFA must predict the number, type, and cost of medical services to be provided.

Medicare economists predict that physicians will offset half of any reduction in their fees by raising the number of medical services they perform. If HCFA bases the conversion rate on this assumption, it would significantly lower physician fees. A 1989 HCFA report indicated that the "50 percent behavior assumption" would reduce the conversion factor by about 15 percent. According to a 1990 study from the Congressional Budget Office, over the five-year RBRVS transition period, this assumption could lower physician payment rates by approximately 8 percent.

A reduction in the conversion factor, based on the "50 percent assumption" is unnecessary and insulting to physicians. A mechanism is already in place to regulate the volume of Medicare services based upon historical trends. If the number of Medicare services rises above the volume performance standards for 1991, Medicare fees would be reduced within certain parameters in 1993.

The Cap on Balance Billing

The 125 percent cap on balance billing has contributed to physician disillusionment despite an increase in the cap to 140 percent for "evaluation and management" services in 1991. Although the RBRVS will not be fully implemented until 1996, the cap on balance billing took effect in January 1991. At the end of the five-year RBRVS implementation period, considering inflation and the limit on balance billing, Minnesota physicians will have less earning power than they have now. Thus, the cap runs counter to the RBRVS objectives of improving access to care and making physician payment more equitable in rural areas. Its effect should be considered as the fee schedule is set.

The GPCIs

The current GPCIs would increase reimbursement for most Minnesota physicians, especially for those who practice in rural areas. But there are potential problems with the GPCIs that will require careful monitoring.

Critics charge that the GPCIs have been calculated with unreliable data and do not reflect actual medical practice costs. They point to the following concerns:

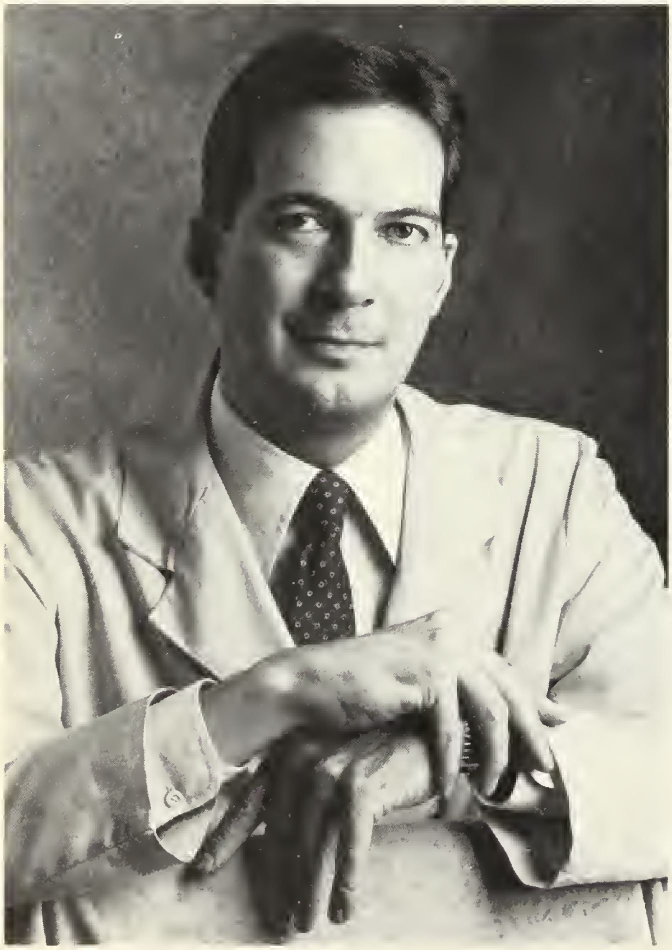
- Proxies were used instead of actual data to develop the GPCIs. For example, apartment rents are used to measure physician office rents.
- It was assumed that medical supplies and equipment cost the same everywhere. Critics argue that these prices may be higher in rural areas.
- 1980 census data on the earnings of non-physician professionals were used to determine the physician time and effort component of the index. This information is 10 years out of date and is not specific to physicians' practices.
- Once the GPCIs are in place, there is no provision in the law for updating or adjusting them.
- GPCIs could decrease access to care in rural areas. In its 1989 report to Congress, the Physician Payment Review Commission (PPRC) noted that the current GPCI might not reflect the true costs of physician services in rural areas. If the GPCI were to understate rural practice costs, rural physicians would not receive the full benefit of reforms.

The Promise of Reform

Concerned about the proposed changes in the Medicare fee schedule, the MMA has rallied the support of its member states in the Geographic Coalition. At the December AMA interim meeting in Florida, the Geographic Coalition of 35 states agreed to pressure Congress, HCFA, and the PPRC to take the following steps:

- Wait to see how physicians behave under the new fee schedule rather than basing the conversion factor on unfounded assumptions;
- Gather reliable practice data, and on that basis, evaluate whether the GPCI is an adequate means to achieve payment reform;
- Consider carefully which GPCIs should be used. In addition to the GPCIs proposed by HCFA, the PPRC also is developing GPCIs, and Congress should consider the different approaches.

There is still time to exert our influence. Neither HCFA nor the PPRC has taken a final position on the conversion factor or on GPCIs, and they could be swayed by input from physicians and from Congress. A second draft of the Medicare fee schedule is expected to be published in the Federal Register in April and the final rates in October. In the meantime, the MMA will continue to urge Congress to fulfill its promise of Medicare reform. MM



Join Dr. McGee.

"Without the AMA, many, many public issues would not even be addressed. For example, every physician should be proud of the very strong, courageous stand the AMA has taken on the issue of AIDS. And it's important to remember, AMA policy is not made by an exclusive few but by people who are in the trenches every day fighting disease. The AMA is the voice of physicians, it's the one body in medicine today that represents the collective interests and opinions of doctors in this country."

Join Dr. George McGee, Gastroenterologist, in the AMA. Call this toll-free number now.

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People and Places Making Medical News

People

CMSS President

Alvin L. Schultz, M.D., F.A.C.P., was inducted as president of the Council of Medical Specialty Societies on November 11 at the council's annual meeting in Chicago.

Schultz, a regent of the American College of Physicians and senior vice president for Medical Affairs of the Minneapolis-based Health One Corp., was chief of medicine at Hennepin County Medical Center and professor of medicine at the University of Minnesota Medical School from 1959 to 1988.

Mayo Doc is Boswell Lecturer

Douglas R. Gracey, M.D., professor of medicine at the Mayo Medical School and consultant in thoracic diseases and internal medicine at the Mayo Clinic, was the Boswell Lecturer for the 1990 Mississippi Thoracic Society Annual Session in December. The Boswell Lectureship was established in 1971 to honor the late Dr. Henry Boswell, who played a key role in reducing the number of deaths resulting from tuberculosis in Mississippi from more than 4,000 to less than 200 per year.

HCMC Appointments

The Hennepin County Medical Center named Peter Setness, M.D., its new chief of Family Practice. Setness, who has been with HCMC since 1986, was assistant chief of Family Practice for the past two years, and since 1986 had served as coordinator for the obstetrics curriculum and services for HCMC's Family Practice residency training program.

Louis Ling, M.D., is HCMC's new associate medical director for Academic Affairs. A St. Paul native, Ling had been an Emergency Medicine staff member at HCMC since 1984.

David Schwantes assumed the position of HCMC's associate administrator for Financial Services. Schwantes served as chief financial officer of Medtronic, Inc. from 1975 to 1984 and as president and general manager of Vision Ease, Inc. from 1984 to 1988. He has most recently been active as a business consultant and author, and in 1989 published a book called "Guatemala."

Christine Layne is HCMC's new assistant to deputy administrator John Bluford. Her background includes about 20 years of health care experience, and most recently she was special projects manager of Adult and Seniors Mental Health at Riverside Medical Center in Minneapolis. At HCMC, she will work on special projects in such areas as primary health care networking and trauma service.

Nursing Professor Dunning Dies

Francis E. Dunning, associate professor emeritus and retired assistant dean of student affairs at the University of Minnesota School of Nursing, died of cancer December 20. A native of New York, Dunning joined the University of Minnesota nursing faculty in 1954 and retired in 1988. She was 68.

Places

'U' Hospital Renovations

The University of Minnesota Hospital board of governors voted unanimously December 19 to spend $37.6 million in renovations that include a two-story addition to the main hospital. The hospital also decided to add a new psychiatry office, outpatient hospital, and clinic; remodel the rehabilitation unit; remodel obstetrics in the Mayo building and eventually move it to the main hospital; and move the urology clinic and cystoscopy to Phillips-Wangensteen, replacing ambulatory surgery, which will be moved to the main hospital operating rooms.

The hospital originally wanted to make $65 million in improvements, but hospital officials compromised with the $37.6 million plan.

HCMC May Lease Space

Hennepin County Medical Center is negotiating to lease or buy space from Health One-managed Metropolitan-Mount Sinai, which is across the street from HCMC in downtown Minneapolis. HCMC is short on space and operating rooms, and, according to Health One President Donald Wegmiller, Mount Sinai has nearly twice as much space as it needs.

Mayo's Mobile Heart Lab

Mayo Clinic has packed a sophisticated heart lab into an 18-wheeler and will be traveling throughout southeastern Minnesota to provide heart testing. The lab, which offers low-risk diagnostic heart catheterization, will help rural patients receive testing in their home towns rather than in Rochester or the Twin Cities.

The mobile lab is not a new concept; other U.S. hospitals have experimented with the idea, but Mayo wanted to wait until the other heart-catheterization laboratories proved successful before trying it in Minnesota, according to Byron Olney, M.D., medical director of Mayo's cardiovascular outreach program.

Community Clinics Consolidate

United Family Practice and Helping Hand Health Center have agreed to consolidate the medical services they provide to residents of St. Paul's West Seventh Street community.

Under the terms of this public-private cooperative venture, Helping Hand, a community clinic supported by a network of public and private funding sources, will continue as a legal entity providing dental services to low-income residents. All medical services, however, will be offered through United Family Practice, a clinic owned and operated by United Hospital.

Patients formerly treated at Helping Hand now have access to full-time physicians, after-hours coverage, and expanded on-site testing through United Family Practice. They also have access to chemical dependency and behavioral health programs available through United Hospital.

The clinic, which the two groups previously shared, is undergoing $75,000 in renovations and remodeling.

Socioeconomics

Carlson Hedges on Health Care

Gov. Arne Carlson wants to postpone action on universal access to health care until 1993 because of the state's budget shortfall, he said December 10 in a luncheon speech to more than 1,000 business and labor leaders at the Radisson St. Paul Hotel. He said his first priority is to resolve the budget shortfall, which could be as high as $2 billion.

Several legislative leaders were critical of Carlson's comments. House Tax Committee Chairman Paul Ogren, DFL-Aitkin, said the health care access proposal he and other legislators introduced has overwhelming support in the House and Senate. As the economy worsens, he said, the legislation will become increasingly important because more Minnesotans will go without health coverage.

Senate Majority Leader Roger Moe, DFL-Erskine, said legislators will continue to look for inexpensive ways to provide health care. "I hope the governor would be open to some first steps that don't have significant costs," he said.

Carlson's announcement comes shortly after Minnesota's Catholic bishops released a letter urging Carlson and the state's legislators to establish a state-run health plan and deal with other issues such as homelessness and hunger.

Blue Cross to Run MCHA

Blue Cross and Blue Shield has agreed to run the Minnesota Comprehensive Health Association (MCHA), the state's health insurance program for those considered uninsurable because of health or age. MCHA, established by the 1976 legislature, has an estimated deficit of $25 million and had been paying hospitals and directors whatever they billed.

Starting February 1, the 24,000 people enrolled in the plan must begin using Blue Cross network hospitals and doctors, who MCHA will pay according to discounted agreements with Blue Cross and Blue Shield. The new agreements will save the health association about 15 percent, officials predict.

Charity Health Care Program

Group Health, Carondelet Lifecare Corp., and Fairview announced January 3 the creation of a joint program called the Community Health Plan that will provide health care for people between jobs or otherwise "in transition." The goal is to help laid-off workers, displaced homemakers, single parents, and others while they acquire job skills.

The plan will provide health coverage for as many as 1,000 people at a time who are without health insurance but do not qualify for other programs such as Medicaid or Medicare. Participants can remain on the program for up to two years.

The program, which will emphasize preventive care, will have a spending limit of $10,000 per person per year and will cost enrollees about $10 to $30 per month. The plan will help people find other ways to get care if their costs exceed the $10,000 limit.

The program is not intended to be a substitute for the statewide program proposed by the Minnesota Health Care Access Commission for the state's uninsured and underinsured, said Group Health President George Halvorson.

Longer Hospital Stays

The average hospital stay in the Twin Cities is increasing for the first time in a decade, according to a Council of Hospital Corporations' study that analyzed data from 1983 to 1989.

The primary reason for the shift is that doctors are referring patients from outside the metropolitan area to Twin Cities hospitals, the hospital trade association reported. The percent of patients at Twin Cities hospitals who were from outside the metro area grew from less than 20 percent in 1983 to 23.6 percent in 1989. The average hospital stay for non-metro patients was 8.3 days in 1989, compared with 5.15 days for patients from the Twin Cities metropolitan area.

Sandoz Suit

Minnesota and 21 other states filed suit December 18 in New York against Sandoz Pharmaceuticals Corp. for violating antitrust laws in the sale of Clozaril, a new schizophrenia drug. Sandoz requires patients purchasing the drug to also purchase a blood monitoring system available only from Caremark Inc.

Periodic blood tests must be performed when using the drug to monitor for potentially fatal side effects that occur in about 1 percent to 2 percent of patients who receive the drug. Sandoz had agreed earlier in December to look for new ways of monitoring patients on the drug and had announced that it would lower the drug's price and drop the blood-test requirement. But the states filed suit, saying the contractual arrangements between Sandoz and Caremark violate antitrust laws, including price fixing and restraint of trade.

Clozaril offers hope for suffering schizophrenics, but because Sandoz charges $172 for a weekly dosage and the blood test, very few patients have had access to the drug, said Minnesota Attorney General Hubert Humphrey III. In Europe, where a blood test is not required, the drug costs only $30 per week, and according to Humphrey, U.S. health care providers could perform weekly blood tests at a cost of $2 to $10.

Drop in Infant Deaths

The infant death rate in Minnesota dropped to an all-time low in 1989, reaching 7.1 deaths per 1,000 live births compared with 7.8 in 1988 and 10.2 in 1981, the Minnesota Health Department reported in December. Minnesota trailed behind Vermont and Wyoming, tying with Maine for the third-lowest infant death rate in the United States during 1989.

However, infant death rates are increasing for certain groups, such as Minnesota's American Indians, said Carolyn McKay, director of the Maternal and Child Health Division at the state Health Department. The mortality rate for black infants in Minnesota is 2.5 times the rate for white infants.

The Health Department credits improvements in medical technology and recent efforts to improve the quality and availability of prenatal care with helping to reduce Minnesota's infant mortality rates.

Minnesota's Poor Children

More than 200,000 (16 percent) of Minnesota's children are poor, according to a Minnesota State Planning Agency report released in December.

The report, called "Minnesota Children: Indicators and Trends," predicts that during the 1990s, such problems as teen pregnancy, school dropout rates, and juvenile crime will continue to grow as the state's teen-age population increases (see Editor's Notebook, page 5). The agency also found that inequality in income and education and strains on parenting are increasing.

"This report illustrates some dramatic trends among Minnesota's 1,300,000 children and highlights important issues for the next decade," said agency commissioner Lani Kawamura.

FDA to Research Physical Restraints

In response to a four-part investigative report published by the Minneapolis *Star Tribune* in December, the U.S. Food and Drug Administration has decided to investigate findings that hundreds of nursing home and hospital residents suffocate and die each year in protective restraints, such as belts, vests, and jackets designed to protect the disabled and elderly from harm.

The FDA will investigate whether Posey Co. of Arcadia, California, the leading manufacturer of the devices, has failed to report deaths resulting from its products to the FDA. If the FDA finds problems with the devices, it will take action ranging from educational programs to recalls or seizures of the products, said FDA spokesperson Susan Cruzan.

Discouraging Women Smokers

Because Minnesota's young women are more likely to smoke than other adults in the state, the Minnesota Department of Health has decided to start an advertising campaign to counteract cigarette ads that portray women smokers as strong, glamorous, and self-reliant.

A survey for the department found that 27 percent of Minnesota women age 18 to 30 smoke regularly, compared with 21 percent of all Minnesota adults.

Blood Donor Restrictions Lifted

The U.S. Food and Drug Administration has dropped its policy banning Haitians and sub-Saharan Africans from donating blood. The FDA originally established the policy because, it said, these groups have a higher prevalence of HIV infection than the general U.S. population. Several groups have protested the ban since its start, and researchers showed that several U.S. cities and other countries have HIV prevalence rates comparable to Haiti's.

In place of the ban, the FDA has instituted new donor screening procedures, including specific questions about high-risk heterosexual behavior. Under the new procedures, which FDA spokesman Brad Stone expects to be implemented by March, screeners will 1) conduct oral interviews on sexual history, using language that is culturally sensitive and that focuses on behavior rather than stereotypes, 2) ask specific questions about donors' risk behaviors, 3) ask those who have been treated for gonorrhea or syphilis within the last year to defer donating blood for one year after diagnosis, and 4) extend exclusion from six months to 12 months for people who have received a transfusion or who have exchanged money or drugs for sex.

Nation's Health Care Spending

The nation's health care spending reached a record high of $604 billion in 1989—about $2,400 for every person in the country, the Health Care Financing Administration reported December 20. Health care spending accounted for 11.6

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percent of the nation's gross national product. While the GNP rose 6.7 percent in 1989, health care spending rose 11.1 percent. HCFA reported that out of every dollar spent on health care, 39 cents went to hospitals; 19 cents went to physicians; 8 cents went to nursing homes; 22 cents was spent on dental and other professional services, home health care, drugs, and vision products; and the remaining 12 cents was spent on administration, research, and construction.

Innovations

Wound Care Therapy

Physicians are testing a treatment at the Wound Care Center at Fairview Southdale Hospital that could heal wounds or sores with little scarring. The treatment, which uses a solution derived from the patient's own blood, has been used effectively at the center.

"We noticed our patient's wounds healed with a minimum of scarring," said Gary Jader, director of the Wound Care Center, which opened in 1989 and is one of 22 such centers in the country. "Plastic surgeons get requests from many patients to remove unsightly scars. Participating physicians agree there may be great potential to use our wound therapy to help those patients."

Half the study patients will be treated with Procuren solution, which is derived from the patient's blood and stimulates the growth of healthy cells to heal the wound. The other half will be treated with a placebo. The old scar will be removed surgically, and the solution will be applied before the area is sutured closed. The patients will then apply either Procuren solution or the placebo on the healing wound daily for up to five weeks.

The study will include 40 patients and last approximately one year.

Angeion Device Goes to Market

Angeion Corp. announced January 2 that the U.S. Food and Drug Administration granted it permission to begin marketing its Angeflator®, an inflation device used in balloon angioplasty procedures.

Minneapolis-based Angeion Corp. is a manufacturer of cardiovascular products, with a current focus on the cardiovascular accessory market. The Angeflator® is Angeion's fourth proprietary product line.

Medical Research

Heart Defect Repair

Patients with atrial septal defect, an abnormal opening between the two filling chambers of the heart, live normal-length lives and experience no greater risk of stroke when their congenital heart disorder is surgically corrected before or close to age 25, according to a Mayo Clinic report in the December 13 *New England Journal of Medicine*.

Patients whose heart defects are repaired after age 25 have greater risk for stroke. Their life span is longer than if the problem is not corrected, but tends to be shorter than for those who never had the problem.

"When congenital heart defect is suspected, it's important that the nature of the problem be identified and corrected if necessary," said Joseph Murphy, M.D., Mayo cardiologist and the study's principal investigator.

Mayo's retrospective study tracked the 27- to 32-year outcome of 123 patients who had their heart defects surgically repaired between 1956 and 1960. **MM**

A Calendar of Continuing Medical Education Courses

Provided through the MMA Medical Education Subcommittee on CME Resources. For assistance with scheduling meetings or for information on future medical meetings and CME courses at the state and national level, please contact the MMA office: 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414; 612/378-1875. Information for each entry is arranged by date; name of program; primary sponsor; location; contact person.

FEBRUARY 1991

Feb. 2-8 **Update in Clinical Neurophysiology** Mayo Clinic/Mayo Foundation; Mayo Clinic/Mayo Foundation, Rochester, MN. CONTACT: Postgraduate Courses, 200 1st Street SW, Rochester, MN 55905; 507/284-2509.

Feb. 9 **Updates in Ophthalmology for Physicians** St. Paul Eye Clinic; World Trade Conference Center, St. Paul, MN. CONTACT: Judy Resheski, 240 Lowry Medical Building, 350 St. Peter Street, St. Paul, MN 55102; 612/227-6634, Ext. 53.

Feb. 11-14 **Myelodysplastic Syndromes (Pre-leukemias)** Mayo Medical Laboratories; Hilton at Walt Disney World, Orlando, FL. CONTACT: Martha Carey, Mayo Medical Laboratories, 200 1st Street SW, Rochester, MN 55905; 1-800/562-1787 (in Minnesota), 1-800/533-1710 (outside Minnesota).

Feb. 11-15 **Obstetrical Review** Mayo Clinic/Mayo Foundation; Hyatt Orlando, Orlando, FL. CONTACT: Postgraduate Courses, 200 1st Street SW, Rochester, MN 55905; 507/284-2509 or 800/323-2688.

Feb. 15 **Burn Care Update** St. Paul-Ramsey Medical Center; Holiday Inn East, St. Paul, MN. CONTACT: Bonnie Young, 640 Jackson Street, St. Paul, MN 55101; 612/221-3992.

Feb. 15 **Minnesota Urological Society** Minnesota Urological Society; Hotel Sofitel, Bloomington, MN. CONTACT: Linda Reynolds, Executive Secretary, 6750 France Avenue South, Suite 149, Edina, MN 55435; 612/925-0533.

Feb. 15-16 **Sexual Attitude Reassessment Seminars (SAR)** University of Minnesota; Program in Human Sexuality, Minneapolis, MN. CONTACT: SAR Coordinator, Program in Human Sexuality, 2630 University Avenue SE, Minneapolis, MN 55414; 612/627-4360.

Feb. 18-22 **Selected Topics in Internal Medicine** Mayo Clinic/Mayo Foundation; Del Coronado, San Diego, CA. CONTACT: Post Graduate Courses, 200 1st Street SW, Rochester, MN 55905; 507/284-2509.

Feb. 20-21 **Geriatric Drug Therapy Symposium** Office of CME, University of Minnesota; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, MN 55455; 612/626-7600.

Feb. 22-23 **Current Concepts of Cardiology for the Primary Care Physician** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

Feb. 24-28 **Undersea & Hyperbaric Medicine Course** Health One Office of CME; Stouffer Wailea Beach Resort, Maui, HI. CONTACT: Health One Office of CME, 2810 57th Avenue North, Minneapolis, MN 55430-2496; 612/574-7895.

Feb. 25-Mar 1 **Problem-oriented Case Studies in Surgical Pathology** Mayo Medical Laboratories; Wyndham Palm Springs Resort, Palm Springs, CA. CONTACT: Martha Carey, Mayo Medical Laboratories, 200 1st Street SW, Rochester, MN 55905; 1-800/562-1787 (in Minnesota), 1-800/533-1710 (outside Minnesota).

MARCH 1991

Mar. 1-3 **Neurology in Clinical Practice** Mayo Clinic/Mayo Foundation; Telmark Lodge, Cable, WI. CONTACT: Postgraduate Courses, 200 1st Street SW, Rochester, MN 55905; 507/284-2509 or 800/323-2688.

Mar. 4-8 **Current Concepts in Gastroenterology** Mayo Clinic/Mayo Foundation; Tradewinds, St. Peters, FL. CONTACT: Postgraduate Courses, 200 1st Street SW, Rochester, MN 55905; 507/284-2509.

Mar. 7-8 **Critical Care Medicine** St. Paul-Ramsey Medical Center; Holiday Inn East, St. Paul, MN. CONTACT: Bonnie Young, 640 Jackson Street, St. Paul, MN 55101; 612/221-3992.

Mar. 8 **Neonatal Resuscitation Program** Minneapolis Children's Medical Center; First Floor Auditorium, Massie Moos Education Building, Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Joyce Rudi, MCMC, 2525 Chicago Avenue South, Minneapolis, MN 55404; 612/863-6923.

Mar. 10-15 **Cardiology for the Clinician: Practical Guidelines for Merging Advances in Cardiology with Bedside Medicine** University of Illinois, Chicago College of Medicine, Department of Medicine, Section of Cardiology; Snowmass, CO. CONTACT: Sue Talbert, UIC Conferences/Institutes (M/C 607), Box 6998, Chicago, IL 60680; 312/996-4631.

Mar. 12-13 **Pediatric Advanced Life Support (PALS)** St. Paul-Ramsey Medical Center; Capitol Professional Building, St. Paul, MN. CONTACT: Bonnie Young, 640 Jackson Street, St. Paul, MN 55101; 612/221-3992.

Mar. 14-15 **Family Practice Today** St. Paul-Ramsey Medical Center; Holiday Inn East, St. Paul, MN. CONTACT:

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- Robert Overlock, M.D., Medical Director, Hyperbaric Medicine, Veterans Memorial Hospital, Kauai, Hawaii
- Jon Pegg, M.D., Senior Consultant, University of Hawaii Hyperbaric Treatment Center and past President of Hawaii Undersea Medical Society

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Mar. 15 **Minnesota Urological Society** Minnesota Urological Society; Hotel Sofitel, Bloomington, MN. CONTACT: Linda Reynolds, Executive Secretary, 6750 France Avenue South, Suite 149, Edina, MN 55435; 612/925-0533.

Mar. 15-16 **CO$_2$ Laser: An Introductory Course in Office and Outpatient Procedures** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

Mar. 21 **Advanced Laparoscopic Seminar: Inguinal Herniorrhaphy, Appendectomy** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

Mar. 22 **Advanced Laparoscopic Seminar: Inguinal Herniorrhaphy, Appendectomy** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

Mar. 23 **Advanced Laparoscopic Seminar: Inguinal Herniorrhaphy, Appendectomy** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

Mar. 23 **12th Annual Occupational Medicine Update** St. Paul-Ramsey Medical Center; Holiday Inn East, St. Paul, MN. CONTACT: Bonnie Young, 640 Jackson Street, St. Paul, MN 55101; 612/221-3992.

Mar. 24-27 **Strategies in the Management of Complex Congenital Heart Disease** Mayo Foundation and Phoenix Children's Hospital; Camelback Inn, Scottsdale, AZ. CONTACT: Postgraduate Courses, 200 1st Street SW, Rochester, MN 55905; 507/284-2509 or 800/323-2688.

APRIL 1991

Apr. 4-5 **Ob/Gyn Update** St. Paul-Ramsey Medical Center; Holiday Inn East, St. Paul, MN. CONTACT: Bonnie Young, 640 Jackson Street, St. Paul, MN 55101; 612/221-3992.

Apr. 4-6 **Total Joint Arthroplasty** Mayo Clinic/Mayo Foundation; Scottsdale, AZ. CONTACT: Rita Kunz or Jan Fleck, Mayo Clinic/Mayo Foundation, 200 1st Street SW, Rochester, MN 55905; 507/284-2509.

Apr. 5 **Annual ENT Update for Primary Care Physicians** St. Paul-Ramsey Medical Center; St. Joseph's Hospital, St. Paul, MN. CONTACT: Bonnie Young, 640 Jackson Street, St. Paul, MN 55101; 612/221-3992.

Apr. 5 **Identification and Management of HIV-Infected Persons** Office of CME, University of Minnesota; Radisson

Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, MN 55455; 612/626-7600.

Apr. 5 **Seventh Annual Duluth Heart Conference** The Duluth Clinic; Fitger's Spirit of the North Theatre, Duluth, MN. CONTACT: Barbara Jablonski, CME Manager, 400 East Superior Street, Duluth, MN 55805; 218/725-3816.

Apr. 8-9 **Annual Ophthalmology Course** Office of CME, University of Minnesota; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, MN 55455; 612/626-7600.

Apr. 11 **Ethics and the Patient with Cancer** American Cancer Society, Rochester Community College; Phillips Hall, Siebens Education Building, Mayo Medical Center, Rochester, MN. CONTACT: Ms. Faith Zimmerman, RN, Rochester Community College, 851-30th Avenue SE, Rochester, MN 55904; 507/285-7571.

Apr. 11-12 **Allergy & Clinical Immunology** Office of CME, University of Minnesota; Mayo Memorial Auditorium, Minneapolis, MN. CONTACT: Registrar, Office of CME, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, MN 55455; 612/626-7600.

Apr. 18 **Advanced Laparoscopic Seminar: Inguinal Herniorrhaphy, Appendectomy** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

Apr. 19 **Advanced Laparoscopic Seminar: Inguinal Herniorrhaphy, Appendectomy** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

Apr. 18-19 **Bone Marrow Processing Laboratory** Office of CME, University of Minnesota; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, MN 55455; 612/626-7600.

Apr. 19-20 **Sexual Attitude Reassessment Seminars (SAR)** University of Minnesota; Program in Human Sexuality, Minneapolis, MN. CONTACT: SAR Coordinator, Program in Human Sexuality, 2630 University Avenue SE, Minneapolis, MN 55414; 612/627-4360.

Apr. 22-26 **Family Practice Review** Office of CME, University of Minnesota; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, MN 55455; 612/626-7600.

Apr. 25-27 **37th Annual Meeting: American Society for Artificial Internal Organs** American Society for Artificial Internal Organs; Chicago Hilton, Chicago, IL. CONTACT: 407/391-8589.

MAY 1991

May 14 **Women's Cancer Center Symposium** Office of CME, University of Minnesota; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, MN 55455; 612/626-7600.

May 15-17 **Concepts in Radiation Therapy** Office of CME, University of Minnesota; Mayo Memorial Auditorium, Minneapolis, MN. CONTACT: Registrar, Office of CME, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, MN 55455; 612/626-7600.

May 16 **Advanced Laparoscopic Seminar: Inguinal Herniorrhaphy, Appendectomy** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

May 17 **Advanced Laparoscopic Seminar: Inguinal Herniorrhaphy, Appendectomy** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

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Twenty-nine Physician Multispecialty Clinic located in desirable east-central Wisconsin location is seeking board-certified or board-qualified orthopedic surgeon to round out its services. Lab, X-ray, excellent hospital. Liberal guarantee and benefits. If interested, contact: D.F. Sweet, M.D., Fond du Lac Clinic, S.C., 80 Sheboygan Street, Fond du Lac, WI 54935. (R)

Family Physician/Emergency Room: Full-time salary working weekends, primarily emergency room. Flexibility available. Falls Medical Center, PA, 105 Shorewood Drive, International Falls, MN 56649. Please contact: A. Johnson, M.D., or A. Marc Gorden, M.D., at 218/283-9431 for more information. (R)

Family Physician wanted to join four physicians, one nurse practitioner, FP group practicing in two offices in Pine River and Pequot Lakes. Competitive salary. No ob. No HMOs. Rural area with outdoor recreational opportunities. Rotate call; adequate free time. Call or write: Gary G. Kohls, M.D., Pine and Lakes Clinics, PO Box 88, Pine River, MN 56474; 218/587-4416. (R)

Physician: GP/FP/EM seeks locations to cover on weekends as locum tenens. Board-certified. FP. Lic. Minn. Write: Box 35132, Minneapolis, MN 55436. (R)

Family Physician: Dynamic 14-physician, two PA, three-office, single-specialty practice in northwest Minneapolis suburbs seeking additional associate, BC/BE; ob available. Competitive salary, full benefits, reasonable call and hospital rounds schedule. Contact: Dr. Diane Shuck, 612/537-8405; or Mark Pottanger, 612/537-8475, Northwest Family Physicians. (*R)

Wausau Medical Center is seeking BC/BE individuals in the following specialties: cardiology, dermatology, family practice, infectious disease, obstetrics/gynecology, pediatrics, and rheumatology. Modern clinic facility located across the street from modern, 300-bed hospital. Full partnership in three years. Easy access to lakes, woods, and mountains. Write (including CV) to: D.K. Aughenbaugh, M.D., Medical Director, Wausau Medical Center, 2727 Plaza Drive, Wausau, WI 55401. (R)

Johnson & Falls Search Associates represents new practice opportunities locally and nationally. Working exclusively in the area of physician search, we are committed to expanding your professional options while meeting our clients' needs. There are no fees to candidates. For a thorough, confidential search, send CV or call: Liz Johnson or Pat Falls, Johnson & Falls Search Associates, 34 Forest Dale Road, Minneapolis, MN 55410; 612/922-0237. (R)

Bemidji, Minnesota: Excellent opportunities for well-trained physicians. We are seeking board-certified/board-eligible physicians in orthopedic surgery, family practice, ophthalmology, pediatrics, and otolaryngology to join a young 24-physician multispecialty group practice located in northern Minnesota. Competitive salary guarantee plus incentive first year and excellent benefits. An excellent opportunity for a physician to enjoy practice in the center of hunting, fishing, and clear air. Please respond with CV to: C.C. Lowery, Administrator, Bemidji Clinic-MeritCare, 1233 34th Street NW, Bemidji, MN 56601; 218/751-1280. (R)

Outstanding Opportunity for a BC/BE Family Physician to join a progressive medical community with eight physicians oriented to family practice. Details will be given by contacting: Dr. Tim Schmitt, Wadena Medical Center, 218/631-1360, or Jim Lawson, Administrator, Tri-County Hospital, Wadena, MN 56482; 218/631-3510. (R)

Locum Tenens physicians needed. Physicians and locations coordinating services. Write to: Margaret Carse, MED Professional Resource Search, PO Box 35215, Minneapolis, MN 55435. (10/89-R)

Family Practice: Physicians seeking a BC/BE family practice physician for the Norway, Michigan, service area. The physician would have the option of joining one of the existing practices and/or setting up his/her own practice. Anderson Memorial Hospital is a part of Dickinson County Hospitals and has a service-area population of over 45,000. Contact: Dr. Paul Hayes, Anderson Memorial Hospital, Main Street, Norway, MI 49870; 906/563-9243, or office 906/563-9255. 2-3/91

Urgent Care/Primary Care physicians for over 90 group positions in metropolitan Phoenix/Tucson, Arizona. Excellent compensation/partnership opportunities. Other quality positions nationwide. Send CV or call: Mitch Young (MM), PO Box 1804, Scottsdale, AZ 85252; 602/990-8080. (*1/90-R)

Mankato: FP partner to join four board-certified family physicians, ages 31-41, in fast-growing, full-range practice, includes ob. Population 40,000+. 70 miles to Twin Cities. Four colleges nearby. 90+ physicians on hospital staff. Academic appointment available. Call: Tony Giefer, M.D.; 507/387-8231. (1/90-R)

Family Physicians: Well-established south suburban Minneapolis family practice group seeks associates part/full time to staff day clinic. Excellent call schedule, salary, and fringe benefits. Also seeking locum tenens to staff PT/FT Urgent Care Centers and/or day clinic. Contact: Administration, Family Physicians, P.A., 612/435-4125, or send inquiries to Suite 100, 14050 Nicollet Avenue South, Burnsville, MN 55337. (*9/89-R)

Dermatologist, Psychiatrist, Allergist, Internal Medicine, Family Practice: A progressive, 126-bed, two-hospital system is seeking the above specialties to establish practices in the Iron Mountain area of Michigan's Upper Peninsula. Must be BC/BE. Located 100 miles north of Green Bay, Wisconsin. Dickinson County Hospitals has a medical staff of 45 full-time physicians and a total service-area population of over 45,000. Diagnostic capabilities include a CT scanner, CO_2 laser, and a fully staffed special diagnostic department. Contact: John Schon, Administrator, Dickinson County Hospitals, 400 Woodward Avenue, Iron Mountain, MI 49801; 906/779-4500. *2-2/91

BC/BE Family Practice and Internal Medicine Physician: Excellent opportunity to join well-established, progressive, 20-physician multispecialty group located in an economically sound community of 20,000 (drawing area of 30,000), 65 miles south of the Twin Cities. Full membership after one year. Competitive salary and fringe benefits package. Contact: Ed Durst, M.D., or Terry Tone, Administrator, 134 Southview, Owatonna, MN 55060; 507/451-1120. (2/90-R)

Forest Lake Doctor's Clinic is seeking a BC/BE family physician, pediatrician, ob/gyn, and internist to join 10-physician multispecialty group. Located 25 miles north of Minneapolis-St. Paul in progressive community with excellent schools, many beautiful lakes, recreational activities, golf, fishing, boating, skiing. Local hospital directly across street. Contact: Dr. Harvey J. Frank or Dr. Doug Sill, 121 SE 11th Avenue, Forest Lake, MN 55025; 612/464-7100. (4/90-R)

Internist to join a progressive 13-physician group practice. Rural college town 30 miles from St. Paul, Minnesota, with community hospital. Contact: Robert B. Johnson, M.D., River Falls, WI 54022; 715/425-6701 or 612/436-8809. (*3/90-R)

Family Practitioner to join a progressive 13-physician group practice. Rural college town 30 miles from St. Paul, Minnesota, with community hospital. Contact: Robert B. Johnson, M.D., River Falls, WI 54022; 715/425-6701 or 612/436-8809. (*3/90-R)

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Worthington Medical Center, P.A.
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Family Practice, Internal Medicine, Pediatrics, Urology, Obstetrics and Gynecology, Dermatology, and Orthopedics practice opportunities available at the Faribault Clinic. The Faribault Clinic is a multispecialty group practice of 14 physicians. Faribault is located 50 miles south of Minneapolis on I-35. For more information contact: Ray W. Wood, M.D., or Ken Smith, Administrator, 924 NE 1st Street, Faribault, MN 55021; 507/334-3921. (4/90-R)

Family Physician: Tired of call? Want predictable hours? Full-time physician needed to work three days per week in our outpatient family practice clinics. One position open immediately. Salary plus bonus and benefits package including malpractice insurance. Contact: Todd Patton, M.D., or William Wenmark, CEO, c/o NOW Care Medical Centers, 13031 Ridgedale Drive, Minneapolis, MN 55343; 612/593-9010. (5/90-R)

Downtown Office Space for Rent: Physician in the Medical Arts Building, 825, wishes to sublet to another physician on a part-time basis for the purpose of sharing overhead expenses. Call: 612/370-0553. (6/90-R)

Mankato Clinic, Ltd. is seeking BC/BE physicians in the following specialties: dermatology, invasive cardiology, ob/gyn, oncology/hematology, pulmonary medicine, vascular surgery, family practice, pediatrics, and general internal medicine. The Mankato Clinic is a 43-doctor multispecialty group practice in south-central Minnesota with a trade area population of +200,000. Guaranteed salary first year, incentive thereafter with full range of benefits and liberal time off. For more information call: Roger Greenwald, Administrator, or Dr. B.C. McGregor, 507/625-1811, or write: 501 Holly Lane, Mankato, MN 56001. (6/90-R)

Wisconsin: Third BC/BE obstetrician/gynecologist needed to join stable, progressive, primary-care-based HMO/group practice in university town of 60,000 near Minneapolis-St. Paul. Excellent quality of life and outstanding recreational area. Competitive salary and fringe benefits. Contact: Stuart R. Lancer, M.D., Medical Director, Group Health Cooperative, PO Box 3217, Eau Claire, WI 54702-3217; 715/836-8552. *3-2/91

Phoenix, Arizona: BC/BE family physician needed for established medical group. Practice located in a desirable high-growth area. Excellent compensation and benefits package. Send CV to: Minnesota Medicine (843), 2221 University Avenue SE, Suite 400, Minneapolis, MN 55414. 12-7/91

Family Practice / North Shore Lake Superior: BC/BE family physician to join busy practice in primary care clinic of four family physicians with consulting internist, ophthalmologist, general surgeon, and orthopedic surgeon. Advantages of living in a small town while being only 22 miles from Duluth metro area. Contact: Lee Cohen or Steve Bjorum, Administrator, Community Health Center, Inc., 4th Street

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Lake City, Minnesota: Family physician BC/BE needed to join three other FPs in progressive, growing practice on Lake Pepin/Mississippi River in southeastern Minnesota. Excellent first-year salary/benefits in a scenic community with multiple recreational opportunities. Contact: D.D. Pflaum, M.D., 303 South Washington, Lake City, MN; 612/345-3318. (8/90-R)

Family Practice / Urology / Orthopedic Surgery: Dakota Clinic, Ltd., Wahpeton, North Dakota, seeking BC/BE physicians. The Wahpeton Clinic (a new facility as of April 1990) is currently staffed by 14 physicians serving a six-county area in three states. Beautiful Minnesota lakes district within 30 miles. Excellent fringe benefits package. Please contact: Corrine Romereim, Division Manager, 275 South 11th Street, Wahpeton, ND 58075; 701/642-2000. *6-2/91

Family Physician to join medical staff of three family practitioners in well-established, growing clinic in central Minnesota along southern shore of beautiful Mille Lacs Lake. Excellent subspecialty support, progressive community hospital, diverse patient population. Guaranteed salary, excellent benefits. Call collect, 612/532-3154 or write Fred Haack, Mille Lacs Health System, 200 North Elm Street, Onamia, MN 56359. 6-2/91

MDsearch assists medical groups and hospitals in their recruiting efforts. For confidential information on opportunities in the Upper Midwest, send CV and/or call collect: Mary Jo Cordes, MDsearch, PO Box 21507, St. Paul, MN 55121; 612/454-7291. 12-8/91

Cannon Falls: Lease or buy established medical clinic building; partially furnished, including X-ray. Adequate for two physicians. Excellent hospital in community. Call: Dr. Klefstad, 507/263-3545. Write: Box 98, Cannon Falls, MN 55009. (9/90-R)

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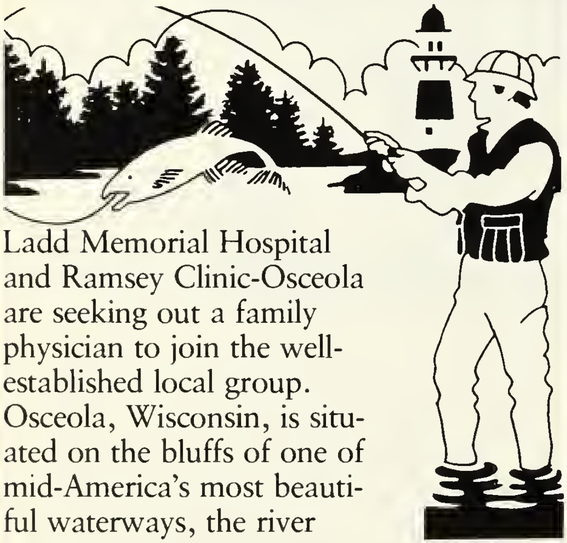

Ladd Memorial Hospital and Ramsey Clinic-Osceola are seeking out a family physician to join the well-established local group. Osceola, Wisconsin, is situated on the bluffs of one of mid-America's most beautiful waterways, the river St. Croix. This practice opportunity offers the perfect balance! For particulars, forward your curriculum vitae or contact: Loriese A. Stoll, Director of Professional Services, Ramsey Clinic, 640 Jackson Street, St. Paul, MN 55101; or call collect — (612) 221-3067. **RamseyClinic**

Office Space Available for Sublease: Fully equipped and staffed. Medical building attached to Methodist Hospital. Call: Dalia, 612/927-4071. (10/90-R)

BC/BE Internist to join multispecialty group (network of 21 clinics) and a 19-member department (five general internists and 14 subspecialists, including one infectious disease specialist). Clinic is physically attached to 206-bed hospital. Two state universities and private liberal arts college enhance the cultural life of the community (population is approximately 100,000), and, with Minnesota's lakes country just a half-hour drive away, outdoor activities abound. Competitive salary, excellent fringe benefits package, and malpractice paid. Contact: Dr. John Hicks, Director, Recruiting Division, 1702 South University Drive, Fargo, ND 58103; 701/280-3338 or 701/280-8520. *6-4/91

Family Practice—Hospital-sponsored Clinic Opportunity: Dynamic, growth-oriented hospital in beautiful north-central Wisconsin is seeking family physicians to join a growing practice in a new facility. The administrative burdens of medical practice will be minimized in this hospital-managed clinic. The hospital has committed to an income and benefits package that is significantly higher than similar opportunities. Package includes base income, incentive bonus, malpractice, disability, signing bonus, and student loan reduction/forgiveness program. All relocation costs will be borne by the hospital. Please contact: Kari Wangsness, Associate, The Chancellor Group, Inc., France Place, Suite 920, 3601 Minnesota Drive, Bloomington, MN 55435; 612/835-5123. (12/90-R)

Pediatrician: Our growing pediatric practice calls for the addition of a third pediatrician. We are seeking a BC/BE physician interested in both primary and consultative pediatrics. Practice location offers the advantages of a suburban community and is located just 15 minutes from Minneapolis, Minnesota. Send CV or contact me for additional information: Marilyn Campbell, M.D., Department of Pediatrics, Fridley Plaza Clinic, 6341 University Avenue NE, Fridley, MN 55432; 612/571-0457. 3-2/91

Lake Region Clinic, Brainerd, Minnesota: Recruiting two family practice physicians to join six family practice physicians. Able to do the full scope of family practice including ob and ICU. Good cooperative working relationship with specialists in orthopedic surgery, urology, ENT, OBG, general surgery, internal medicine, ophthalmology, and psychiatry. Modern, well-equipped 160-bed hospital within two blocks. We offer first-year guarantee plus incentive, vacation time, CME study time, insurance, and more. Send CV or contact Darral Mischke, Administrator, or David Boran, M.D., at 218/829-3568. 6-5/91

Radiology/Orthopedics/Family Practice/Pediatrics/Ob-Gyn/Internal Medicine/Peripheral Vascular Surgery: Several attractive opportunities in Indiana, Nebraska, Wisconsin, and Michigan. A variety of practice settings. Single, multispecialty, or solo opportunities. Contact Bob Strzelczyk to discuss your practice requirements and these positions at 1-800/243-4353. Strelcheck & Associates, Inc., 10624 North Port Washington Road, Mequon, WI 53092. *3-3/91

Internal Medicine: Austin, Minnesota, 19-physician group adding sixth internist. Growing practice, offices connected to 138-bed hospital with 6-bed ICU, trauma center, excellent salary and benefits, 23,000 population near Rochester. Contact: Phil Kelbe, 1110 North Third Street, Suite 356, Milwaukee, WI 53203; 414/347-7841. 3-3/91

Family Practice: Crystal Falls, in central southern Upper Peninsula of Michigan, is seeking a BC/BE family practice physician. The physician will have the option of joining an existing practice or setting up a hospital-sponsored practice. Service area of 8,000. Contact: H. B. Purdy, CEO, Crystal Falls Community Hospital, Michigan Avenue & Third Street, Crystal Falls, MI 49920; or phone office: 906/875-4144, or home: 906/875-4145. 3-3/91

Pain Fellowship: Position for PGY4 or PGY5 to participate in a one- or two-year program of clinical pain management and clinical or basic research beginning July 1, 1991, sponsored by the Department of Neurology, Hennepin County Medical Center in Minneapolis. The program is one that maintains an active outpatient practice and sees hospitalized patients on a referral basis from all departments. Opportunities to learn pharmacological management, acupuncture, peripheral nerve blockade, biofeedback techniques, and other areas related to pain are available. Hennepin County Medical Center is an equal opportunity educator and employer and specifically invites and encourages applications from women and minorities. Application and CV should be sent to: Miles J. Belgrade, M.D., Director, Hennepin Pain Clinic and Research Center, Department of Neurology, Hennepin County Medical Center, 701 Park Avenue South, Minneapolis, MN 55415. 3-3/91

Southwestern Iowa: Hospital seeks third FP. Guarantee $90,000, great benefits. Omaha one hour. **Minnesota**-Live Minneapolis; practice lakeside community 45 minutes' drive. Salary $65,000, plus productivity. Contact: Wanda Parker, E.G. Todd Physician Search, Inc., 915 Broadway, Suite 1101, New York, NY 10010; 800/221-4762. *2-3/91

Family Practice: BC/BE family practitioner to join 21-person family practice department that is part of a 45-person multispecialty group located in the northern suburbs of Minneapolis. Practice opportunities available in rural and suburban locations. Highly competitive first-year guaranteed salary, production-based compensation, exceptional benefits package. Respond with CV to: Penny Magnuson, M.D., 9055 Springbrook Drive, Coon Rapids, MN 55433; 612/780-9155. *1-2/91

Midwest: Dakota Medical Center is looking for a fifth ED physician. BC/BE in emergency medicine preferred, but

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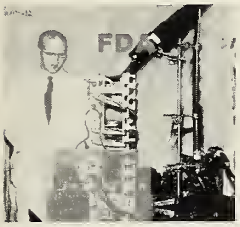

COVER

Physicians of Invention Minnesota physicians have a proud history in medical innovation. This month's interview (page 11) and feature story (page 18) describe how a number of groups are promoting their entrepreneurial endeavors.

On the cover, Minnesota's introduction of the bubble oxygenator in 1955 spurred a new era of cardiovascular technology. The oxygenator, shown with inventor Richard De Wall, M.D., is one of the state's best-known innovations. Cover design by Cynthia Huff of Minneapolis.

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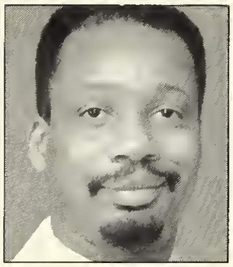

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The Party's Over

No More Pharmaceutical Freebies

Edmund C. Burke, M.D.

A conscience-troubling relationship may have been clarified for the better. Over the years, scrupulous physicians have been greatly troubled by the freebies proffered—often aggressively—by the pharmaceutical industry. What was considerably blurred may now be clarified as a result of action taken by the American Medical Association Council on Ethical and Judicial Affairs in December.

While many gifts given to physicians by companies in the pharmaceutical device and medical equipment industries serve an important and socially beneficial function, some gifts may be inconsistent with our medical ethics. Concerns about relationships between industry and physicians led the AMA Council to adopt the following guidelines:

1. Any gifts accepted by physicians individually should primarily entail a benefit to patients and should not be of substantial value. Examples might be textbooks, modest meals, etc. Cash payments should not be accepted.

2. Individual gifts of minimal value are permissible if the gifts are related to the physician's work.

3. Subsidies to underwrite costs of continuing medical education are permissible. However, payments to defray the costs of a conference should not be accepted directly from the company by physicians who are attending a conference. Subsidies from industries should not be accepted directly or indirectly to pay the cost of travel, lodging, or other personal expenses of physicians attending conferences.

4. Scholarship or other special funds to permit medical students, residents, and fellows to attend educational conferences may be permissible if selection of students, residents, or fellows is made by the academic institution.

> "Scrupulous physicians have been greatly troubled by the freebies proffered by the pharmaceutical industry."

5. No gifts should be accepted if strings are attached. An example might be a physician accepting gifts related to prescribing practices.

Recently, Sen. Edward Kennedy held two days of hearings as chairman of the Senate Labor and Human Resources Committee. During the hearings, physicians and former pharmaceutical company executives revealed extravagant marketing practices including:

- Sending physicians and spouses on all-expense-paid trips to Acapulco, Palm Springs, Monte Carlo, and Monaco for educational symposia.
- Offering physicians $1,200 to prescribe expensive antibiotics to 20 patients during a clinical study.
- Awarding airline frequent-flier miles for every prescription written.
- Offering a physician $100 simply to read a company's literature that encourages prescribing a toxic drug for use not approved by the Food and Drug Administration.

Kennedy charges that "doctors who accept lavish industry gifts are jeopardizing their objectivity and compromising the trust of their patients."

John Nelson, immediate past president of the Utah State Medical Association, wrote, "Something is wrong with a system that allows large amounts of money to induce physicians to use certain health care products while many who may need that very product cannot afford it."

Meanwhile, drug prices escalated 88 percent between 1981 and 1988. During the same period, general price inflation was only 28 percent.

"Patients should be paying for their medical care and not for physicians' vacations," said David Orentlicher, M.D., J.D., of the AMA's Ethics and Health Policy Council and secretary of the Council of Ethical and Judicial Affairs. That concern, says Orentlicher, was one of several ethical considerations that inspired the council to declare unethical the acceptance of vacations or cash to pay for travel expenses, gifts of substantial value, cash and lavish meals, and entertainment from pharmaceutical companies.

Said Orentlicher, "Drug companies would not give gifts if they didn't serve a purpose to the company. No profit-minded company would give gifts out of disinterested generosity."

Louis Margolis, M.D., M.Ph., assistant professor of pediatrics at the University of Michigan, suggests, "Physicians ought to ask themselves whether or not they would tell their patients, 'I'm going off to Aspen for a week, and, by the way, you are paying for it.' If they aren't willing to say it, that to me is a good sign that their conscience is concerned about the activity."

How will these recommendations be enforced? Neither the AMA nor the Pharmaceutical Manufacturers Association has any specific mechanisms in place to enforce the guidelines.

Reports from the Council on Ethics and Judicial Affairs are adopted by most state and county medical societies and by the Board of Medical Examiners in each state. Reprimand or probation by the licensure board for violations of the ethics codes is now reported to the newly established National Practitioner Data Bank.

Compliance, of course, remains to be seen. Kennedy expressed doubt that this self-policing system would be sufficient and pointed out that Senate hearings were held on the same topic 17 years ago, yet here we are still tying to correct the problem.

Still, setting some ground rules is a step in the right direction. **MM**

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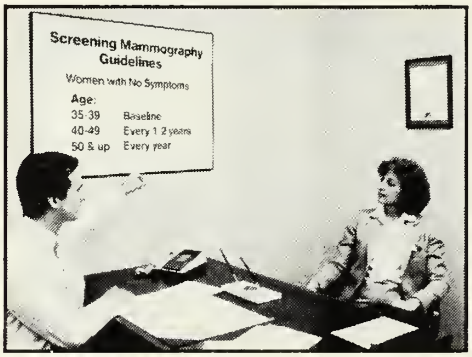

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Preventing Preterm Births

The two articles on healthy babies and preventing preterm births in the December 1990 issue of *Minnesota Medicine* were written with insight into today's medical practice complexities.

However, we are concerned that neither article mentioned smoking as one of the most important and most preventable risk factors. Research suggests that the chance of having a preterm or low-birthweight (LBW) infant is almost two times higher for a pregnant woman who smokes than for a nonsmoker. Furthermore, a recent survey of smokers in Minnesota found that young women in the primary childbearing ages of 18 to 30 smoke at much higher than average rates (up to 35 percent). In addition, during our own study of preterm-birth care, we found little evidence in patient records showing serious efforts to reduce smoking, even when it is identified in a pregnant woman.

In order to increase medical recognition of the problem, it is important to mention smoking in all articles addressing prenatal care or prevention of preterm deliveries. Since most prenatal assessment forms list smoking as a risk factor, identifying it as a major issue would serve to emphasize its relationship with low-birthweight and preterm delivery.

Marks et al. found that several thousand LBW births could be prevented through smoking cessation programs for pregnant women, with a savings of more than $6 for each $1 spent (Am J Prevent Med 6:282-289, 1990). In our experience, smoking cessation intervention is most effective when addressed through a systems approach. Our Doctors Helping Smokers program has proved a practical and successful office-based system that can and does assist many Minnesota physicians in improving their efforts in this area.

Minnesota Medicine
Healthy Babies

At Blue Plus, we are concerned about the multiple preterm-birth prevention programs, each with its own specific prenatal assessment and education forms that clinics are asked to complete. To address this concern voiced by a number of our physicians and clinic administrators, Blue Plus and the Minnesota Medical Association requested that the Minnesota Council of HMOs consider working collaboratively to standardize these materials. An HMO Task Force has been formed for this purpose.

Standardizing a more proactive approach to prenatal care for all patients and prominently including smoking cessation in this approach are important missions we all have in common.

Shirley Conn, R.N.
Clinical Preventive Services Coordinator, Blue Plus
Leif Solberg, M.D.
Quality Improvement
Medical Director, Blue Plus
St. Paul, Minnesota

Providing MMR Vaccine to Children

In 1989, the United States experienced its worst measles epidemic since 1978. The provisional total of 41 measles-related deaths represents the largest number of deaths since 1971. Measles cases increased by 71 percent during the first 29 weeks of 1990. If current trends continue, approximately 25,000 to 30,000 cases may be reported for the entire year, with 80 to 100 deaths. The most significant morbidity and mortality are occurring among inner-city, unvaccinated, preschool children. Studies of several outbreaks have shown that many of these children could have been vaccinated during contacts with health care providers but were not. The purpose of this letter is to reinforce the need to take every opportunity to vaccinate children in need.

Every child, 15 months of age or older, should receive measles, mumps, and rubella vaccine (MMR) unless there are valid contraindications. If children are in need of polio or other vaccines such as diphtheria (DPT), and/or haemophilus b conjugate vaccine (HbCV), they all may be administered at the same time as MMR at separate sites without compromising safety or efficacy. In any case, if the child is old enough to receive MMR, it should be given at the first available visit, with or without other vaccines.

Providers should pay particular attention to accepted contraindications for MMR as noted by the Immunization Practices Advisory Committee (MMWR 38 [No. S-9]:S1-S18, 1989) and the Committee on Infectious Diseases of the American Academy of Pediatrics (Pediatr 84[6]:1110-1113, 1989). Children with minor illnesses (with or without low-grade fever), such as upper respiratory infections and acute gastroenteritis, should be vaccinated. MMR should not complicate the evaluation of such illnesses. Adverse events following MMR typically appear five to 12 days after vaccination and consist primarily of fever ≥ 103°F in 5 percent to 15 percent of children (lasting one to two days) and transient rashes in 5 percent of children. The interval between vaccination and onset of adverse events reflects the time needed for replication of the attenuated viruses.

Finally, we strongly urge you to provide vaccination in acute care clinics and emergency rooms. We strongly support the ideal that every child should receive immunizations in a setting that will provide comprehensive health services to that child and the family. But we are also aware that, for a variety of reasons, many children do not use such a setting and instead receive much of their care in acute care settings. Every contact we have with children (whether it be in an emergency room, in our offices for an acute visit, or in a WIC office) should be fully utilized to 1) provide needed immunizations, and 2) stress the importance of comprehensive care.

Poor immunization levels among our inner-city children cannot be attributed solely to poor parental compliance. As health care providers, we have a responsibility to take advantage of every opportunity we have to vaccinate children.

Walter A. Orenstein, M.D.
Director
Division of Immunization
Center for Prevention Services, CDC
Stanley Plotkin, M.D.
Chairman
Committee on Infectious Diseases
American Academy of Pediatrics

Reporting a Suspicious Wound

I am hoping one of your readers can help us solve a sexual assault case. On October 5, 1990, a man attempted to sexually assault a stranded motorist, and the victim used the suspect's butterfly knife to stab the suspect in the stomach through his leather jacket. The knife was still embedded when the suspect left the area.

If one of your readers recalls treating this wound, I urge him or her to report it to the Sheriff's Office. As required by Minnesota Statute 626.53, we would keep such a report confidential and would not disclose the reporter's name. Under the same statute, the reporter would not be subpoenaed or forced to testify in court as a consequence of reporting the wound.

The suspect is described as a white, 30-year-old male, 5 feet 10 inches tall, very blue eyes, and blondish/brown hair that is shoulder-length in back and short in front. He was wearing a black leather jacket, red shirt, blue jeans, and white tennis shoes.

The suspect possibly told a story concerning the wound to the treating physician. Minnesota Statute 626.52 requires physicians to report suspicious wounds: "A health professional shall report to the police authorities any wound that the reporter has reasonable cause to believe has been inflicted on a perpetrator of a crime by a dangerous weapon . . ."

Thank you for your help with this case.

W. A. Szenay, Deputy
Ramsey County Sheriff's Dept.
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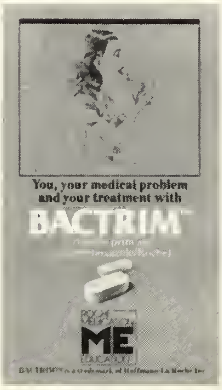
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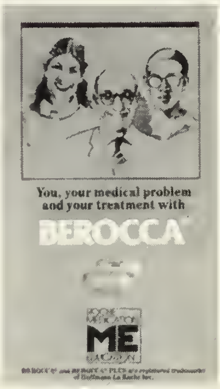
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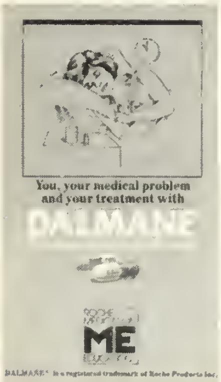
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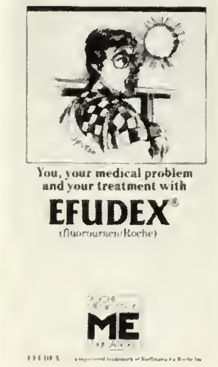
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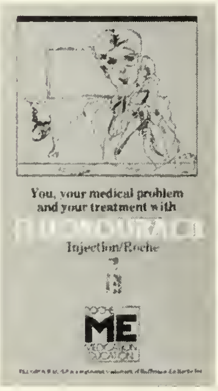
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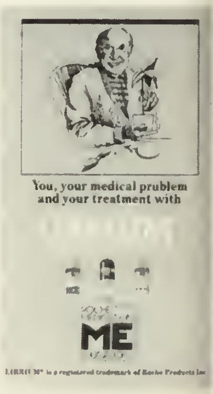
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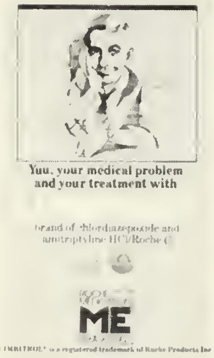
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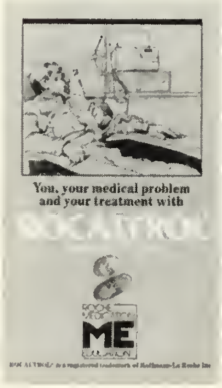
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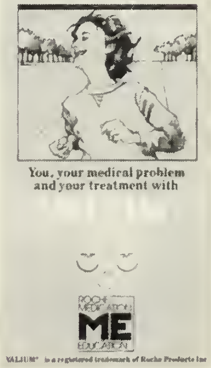
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Mayo's Medical Ventures

Minnesota Medicine interviews Lynwood H. Smith, M.D.

When Mayo Clinic started Mayo Medical Ventures in 1986 to raise research and education dollars, it had no idea how successful the endeavor would be. Today, Lynwood H. Smith, M.D., the program's medical director, is pleased with the results, including approximately $4 million in net revenue for 1990.

Behind the $4 million in revenue is a golden concept that makes Mayo a home to entrepreneurs. Among the Mayo staff, Medical Ventures identifies creative ideas with profit potential and then encourages staff members to develop the ideas. This fall, Medical Ventures' Health Information Division published the "Mayo Clinic Family Health Book," which has already sold more than a quarter million copies. The Technology Transfer Division encourages staff to invent new products and technology, resulting so far in 66 licenses and 27 patents. Mayo staff members have developed several products, from computer software to monoclonal antibodies.

When Dr. Smith became medical director of Mayo Medical Ventures in 1990, he had already been with the Mayo Clinic for about 25 years, starting as a consultant in internal medicine and nephrology. Currently, Smith is also an internal medicine professor and a urology consultant.

Born in Missouri and educated in Kansas, Dr. Smith served four years in the U.S. Naval Air Intelligence. He was a resident in internal medicine at the Mayo Graduate School of Medicine from 1961 to 1964 and a research fellow at Johns Hopkins School of Medicine from 1964 to 1965. Among his many professional activities, he is currently chairman of the Third Gordon Research Conference on Calcium Oxalate and a project reviewer for the King Faisal Specialist Hospital and Research Centre in Riyadh, Saudi Arabia.

As Mayo Medical Ventures moves into the future, it plans to concentrate on its Technology Transfer Division, expanding its operations to Mayo's group practices in Scottsdale and Jacksonville. Given its past accomplishments, Mayo Medical Ventures is sure to find success.

Lynwood H. Smith, M.D.

"An entrepreneurial approach to medicine has probably always been a part of Mayo Clinic."

What's It All About?

Minnesota Medicine: Dr. Smith, tell me about your new title and what it represents.

Smith: I'm the medical director of Mayo Medical Ventures, which is relatively new within the Mayo system. Mayo Medical Ventures, like Mayo's practices in Jacksonville and Scottsdale, is part of a diversification effort that Mayo began in the late '70s and early '80s.

Minnesota Medicine: What is Mayo Medical Ventures, and when did it begin?

Smith: Mayo Medical Ventures was begun in 1986 with the goal of identifying activities and ideas among our staff that can potentially be developed and used outside Rochester and Mayo Clinic. These activities have the capacity to generate income for research and education.

Mayo Medical Ventures started with two primary activities, including health information and technology transfer. The Health Information Division has as its primary goal the delivery of accurate health information to the public. In 1986, that division took over the *Mayo Clinic Health Letter*, which was first published in 1983. This was Mayo Medical Ventures' first health information product. Technology Transfer, which I'll describe later, was its second project. Mayo Medical Ventures now has a third operating division—the Medical Products Division.

In 1988 the Health Information Division started the *Mayo Clinic Nutrition Letter*, which was an award-winning publication right from the start. In 1989 and 1990, both the *Health Letter* and the *Nutrition Letter* won FDA Top Ten Awards in a competition for newsletters from around the country. There were approximately 300 entries, and the *Health Letter* and the *Nutrition Letter* were the only health letter formats that won awards.

The *Nutrition Letter* was an outstanding product, but we discontinued it at the end of 1990 for several reasons. Among them, we found that its subscribers were the same people subscribing to the *Health Letter*. Consequently, the number of subscribers, which peaked at 70,000, was not adequate to make the *Nutrition Letter* financially viable. Nutrition and fitness topics will be regularly covered in the *Mayo Clinic Health Letter*. Only 13 percent of our *Health Letter*'s 400,000 subscribers are Mayo Clinic patients, so we are reaching a large number of people beyond our patient population.

The Health Information Division's other focus is on books. This fall we published the "Mayo Clinic Family Health Book," an effort that involved more than 200 of our medical staff. Within six weeks, the initial 165,000 copies were sold out, and since then, two additional printings have been sold out. It has been an extremely successful publication. The Health Information Division plans to publish additional books in the future and is currently developing a long-term plan.

Minnesota Medicine: I understand you hope to sell a million copies of the "Mayo Clinic Family Health Book." That may be ambitious, but it also may be possible. It has met with such great success.

Smith: It's been in press since October 28, and already it has sold over one-quarter of a million copies. Selling a million copies is a realistic goal.

Minnesota Medicine: I know that the *Mayo Clinic Family Health Book* is so heavy that you wouldn't want to drop it on your foot. How heavy is it?

Smith: It weighs 7.5 pounds. It's over 1,300 pages long. Any new books will very likely be less than half that size.

Minnesota Medicine: What are some possible topics for future books?

Smith: At this point, we are negotiating with several publishers to develop a long-range plan. The first step will be to identify our future publisher, and when that's done, we will be able to select topics. A number of topics have been discussed, varying from pregnancy and childhood to cardiovascular health. At this point, it's premature to say what the next book will be—at least until we've identified our publisher.

Getting Down to Business

Minnesota Medicine: Dr. Smith, let's back up a minute. I believe Mayo Clinic departed from tradition when it got into the venture business. You and I both remember years back when Mayo Clinic funded all of its operations and accepted no outside money. At that time, financial support for research and education was generated strictly by the practice. Then Mayo wisdom saw that practice fees couldn't continue to support education and research, so it launched into new areas and encouraged research funding from federal government, industry, and other sources. Can you explain how the venture business came about?

Smith: Actually, Dr. Will and Dr. Charlie were entrepreneurs. In fact, they were recognized in 1985 by the Minnesota Business Hall of Fame and were accepted into it posthumously. An entrepreneurial approach to medicine has probably always been a part of Mayo Clinic. Back in the days when we accepted no outside funding, a resident received just $200 a month for salary and reimbursement. The cost of medical education was really quite different from what it is today. A lot of the research we did in those early days was retrospective and related to clinical activities, but as our research and methodologies became more sophisticated, the expense of research greatly increased. It became clear that Mayo's clinical practice would be unable to support all of its research and educational activities.

In Mayo's first effort to attract outside funding, it sought research support from the National Institutes of Health. Mayo's investigators competitively sought research dollars, and they were very successful. The establishment of the medical school was probably the precipitating factor that forced Mayo to seek additional funding. When Mayo started the medical school, it set a goal to raise $1 million per student—$40 million for 40 students. It was during this period in the '60s and '70s that we moved from a totally self-sufficient facility to one that clearly needed support from external sources for education and research, which are so important to the total Mayo system.

Because of changes in medicine and government regulations regarding funding of medical care, Mayo must be innovative in supporting its activities if it's going to continue as a leader in education and research. Mayo's diversification efforts, including the group practices, Mayo Medical Laboratories, and Mayo Medical Ventures, are important examples of how Mayo supports these essential activities.

Minnesota Medicine: So the purpose of Mayo Medical Ventures is to provide money for education and research. How much revenue does this amount to now?

Smith: Our estimated 1990 net revenue is approximately $4 million.

Minnesota Medicine: What are your projections?

Smith: This year's income is double last year's. Will it continue to double every year? I'd like to think that this is a possibility. We hope to continue to grow at approximately the same rate.

Minnesota Medicine: One goal of Mayo Medical Ventures, if I understand it properly, is to encourage people involved in Mayo to develop new products such as instruments used in the operating room or equipment used in the laboratory.

Supporting Innovation

Smith: Our second division, the Technology Transfer Division, was established expressly for this purpose. Members of our staff have developed a number of new ideas, inventions, and methodologies, and it is our objective to identify these and license them to the commercial market when appropriate. This has been a very successful operation. To date, 66 licenses have been signed and 27 patents have been issued. About one-third of the inventions have come from our research staff, one-third from the clinical staff, and one-third from the paramedical staff, so you can see we've had widespread institutional participation. One of our objectives this year is to involve the group practices in Jacksonville and Scottsdale and work with them to develop additional ideas.

Mayo staff members have developed several products, including complex items such as software to analyze MRI and CT scans in three-dimensional displays; simple things like a doll to help explain surgery to children; and several things in between, such as total knee replacement, shoulder replacement, and elbow replacement. Five companies in Rochester have additional product lines primarily because of Mayo technological developments.

"Members of our staff have developed a number of new ideas, inventions, and methodologies."

Minnesota Medicine: I understand there is incentive—including possible remuneration—for individuals to come up with ideas for devices and other innovations.

Smith: The individual can benefit in three ways. First, a percentage of the royalty goes to the investigator or inventor. If the individual needs to conduct additional research, the corporation with whom we are dealing funds it. And finally, a percentage of the royalty goes to the individual's department. Actually, about 63 percent of the total support from royalties and sponsored research benefits the investigator or inventor and his department.

Minnesota Medicine: You mentioned that Mayo Medical Ventures has a third operating division, the Medical Products Division. What is its purpose?

Smith: The Medical Products Division includes our pharmacies in Rochester, Jacksonville, and Scottsdale, a medical products store in Rochester, and a hearing aid store in Rochester. One might ask, "Isn't this just commercialization?" or "How does this relate to Mayo's staff?" In fact, these are extensions of the staff. They provide much needed services and products, such as drugs and drug education. They provide a continuing service no matter where the patient lives. We have a catastrophic drug program for patients with diseases requiring extremely expensive drugs, such as growth hormones, chemotherapy, and rejection therapy during transplantation. These products and services are extensions of our practice. They provide service to the patient, and the income goes back to the physician for research and education.

Leading the Team

Minnesota Medicine: Dr. Smith, you're also a clinician. How much time do you devote to your Medical Ventures assignment?

Smith: Officially, 40 percent.

Minnesota Medicine: How did your background and training as a physician qualify you to be the medical director of Mayo Medical Ventures?

Dr. Smith: First, realize that Mayo Medical Ventures is a highly effective team of individuals who have been brought together to conduct business activities. These activities depend upon continuing communication and collaboration with the Mayo staff. A primary role for the medical director is to provide an effective bridge between Mayo Medical Ventures and the rest of Mayo. The experience of being an active member of the Mayo staff involved in practice, research, education, and administration provides the needed background for the medical director of Mayo Medical Ventures.

Minnesota Medicine: You also have an associate, Rick Colvin. What are his responsibilities?

Smith: Rick is the executive director. He's been with Mayo Medical Ventures since it was started. He is an attorney and is responsible for the day-to-day operations of Mayo Medical Ventures. No one knows Mayo Medical Ventures better than he does.

Identifying the Competition

Minnesota Medicine: Who is your competition?

Smith: The two major competitors with our *Health Letter* are Berkeley's *Wellness Letter* and the *Harvard Medical School Health Letter*. As for other competitors, a number of the major venture corporations associated with medical centers met in Chicago last fall. Participants were selected by their gross income. Thirteen attended and another five were invited but did not attend. None had activities in health information, and only one was involved in technology transfer, although there are clearly academic centers in the United States that develop technology transfer within their own institutions. Medical product activities, pharmacies, and medical product stores, for example, were well-represented in the group. None presented competition in the information area.

Minnesota Medicine: Dr. Smith, what can you tell us about Mayo Medical Ventures' plans for the future?

Smith: In the immediate future, we intend to concentrate our efforts in technology transfer. Currently, only Rochester is involved, but we plan to expand and promote the involvement to our satellites in Scottsdale and Jacksonville.

Both of these group practices have expanded their facilities and staffs. We believe this represents great potential and merits support and promotion. MM

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Just Beyond the Next Bend in the River

Reflections on a Medical Career

Lockhart B. McGuire, M.D.

Vignettes or anecdotes often lack the authority of objective, analytic forms of writing. Nevertheless, we physicians sometimes feel compelled to offer stories from our experience. Although medical vignettes may not illustrate general principles, they often contain glimpses of truth, unexpected combinations of human frailty and strength, and interesting blends of irony and idealism. Their message is one of a pervasive particularity and unpredictability in a world that looks to science for predictability and control.

As Sir William Osler observed, "To practice medicine on patients without the study of books is to sail an uncharted sea, but to study books without seeing patients is never to go to sea at all." Textbooks and journals, as valuable as they are, will never provide the rich texture of insights and skepticism and the occasionally vivid emotional transactions afforded by clinical experience.

> "Medical science seems small, even frail, in relation to the world of human health, hope, and death."

These vignettes from my experience are intended to suggest the pleasures and the problems and, above all, the joy to be found in a medical practice grounded both in science and in a personal concern for the whole lives of patients. From this perspective, the body of medical science, with its fortress of biological facts and rules, seems small, even frail, in relation to the world of human health, hope, and death.

• • •

I come from a family of physicians, five generations of them, and have learned much by association. I begin with two stories from my father's practice.

For many years, my father took care of a proud elderly lady who lived in the country home that her ancestors had built 200 years earlier. One night she fell and broke her hip. She edged herself first to a footstool, then to a chair next to her bed. Finally, in great pain and with great difficulty, she pulled herself up onto the bed and composed herself in a dignified position. She had not wanted her servants to find her in disarray in the morning.

My father visited her for several days in the hospital after she was admitted for surgical repair of her injury. Then, because of an obligation elsewhere, he left her in the care of an associate. When he returned, she said, "Hunter, do not leave me in the care of that doctor again." When my father defended his colleague's credentials and capabilities, she said, "He may be a fine doctor, but when he visits me, he sits on the edge of my bed." For the physician, first learning the patient's starting position can be a harmless kindness and a fundamental step to building trust.

• • •

My father was quiet and discreet, and the few stories he shared about patients were mostly jokes on himself. His practice included many patients who did not pay, either because they were poor or were clergymen or nurses. One nearly indigent patient was a housekeeper in an aunt's household. Nancy always had more complaints than could be explained in terms of disease. My father's patience and compassion were legendary. Once, after an office visit in winter, knowing that Nancy had no money for either medicine or fuel to heat her home, he gave her some drug samples plus $25 to help her through the season.

Nancy did not return to see my farther for an unusually long interval, over six months, but then she reappeared with her usual formidable catalogue of complaints. Commenting on her prolonged absence, my father said, "Nancy, I haven't seen you in so long, I thought perhaps the medicine I gave you made you better."

"Oh, no, doctor," she quickly assured him. "I've been just as sick as ever. But, with the money you gave me, I've been seeing a paying doctor." Magic and sacrificial offerings have greater importance perhaps than we realize in our supposedly enlightened age.

• • •

Some years ago, I bought a small retreat in a very remote patch of Virginia's mountains, where such few native neighbors as we had amazed my family with their unusual beliefs and the primitive streaks in their personalities. A lovely, curving river ran between old Frank's place and ours. Frank knew more about woods, animals, rivers, and weather than I could believe. He could sit "haunched down" with his seat resting on his ankles for an hour at a stretch. Although he could not write, he was intensely proud and rejected the good intentions of our welfare state to bring him into the 20th century. He was highly suspicious of outsiders. I was proud to have gradually crafted a friendship with him.

Frank eventually became sick with three fatal diseases. When his care could no longer be managed at home, he agreed to accept a hospital stay under my supervision, and this was arranged. We were able to make only small progress against his diseases, and throughout his hospitalization he remained disoriented and restless. Every day I would test his mental status by asking him who I was and where we were; each time he would give me wildly wrong answers. Then one day, with his breathing much worse, he fixed me with a bright, piercing gaze when I asked him the usual questions and said, "Doc, I am on a peak just beyond the next bend in the river." He died a few minutes later. The poetry and penetrating truth in the language of many patients will astonish, if only we take the time to listen for it.

• • •

Resourcefulness in patients is not confined to those with formal education. Patients' use of doctors and hospitals sometimes has a surprising origin. One Monday morning when I was attending in the coronary care unit, the house staff presented to me an elderly woman who had been admitted the previous Saturday with congestive heart failure. This woman had diabetes, and a stroke had left her partially paralyzed. She had a history of myocardial infarctions, but no recent injury was found to explain the episode of congestive heart failure. She had responded so promptly and so well to oxygen and diuretics that she was being discharged even as I began my review of the weekend's admissions. The residents' plan for her seemed in order.

Imagine our surprise and embarrassment when this woman was readmitted the following weekend with the same problem. This time, I insisted on a more comprehensive diagnostic approach to her problem. "Any fool can successfully treat acute pulmonary edema with nonspecific measures, as you have done," I told the house staff. "The superior doctor goes beyond the task of simply looking for new coronary occlusion to explain the event. The doctor we want you to be considers all other possible explanations—too much salt, hypertension, anemia, and so forth." The residents seemed to absorb my sermon, reviewed all possibilities, and seemed this time to make every effort to ensure she would not have a recurrence.

To our dismay, however, this woman returned three weeks later with the same problem. My curiosity and my indignation were aroused. This time, I took an active part in interviewing the patient. We learned that this paralyzed woman was cared for all week long by her family, but her family's sense of duty did not extend to weekends. Without assistance, she was unable to move from bed to bathroom and would be incontinent waiting for help. Knowing that in the hospital she would always have help, she had been neglecting to take her medicines on Wednesdays, Thursdays, and Fridays. Being in heart failure on Saturdays was a burden more than offset by avoiding spending the weekends alone. With full appreciation of her situation, we took more appropriate measures, including arranging for weekend visits by a public health nurse.

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A refugee countess from Hungary lived in our area. She ran a horse-breeding farm that she had started with a few fine animals she had brought with her when she fled Hungary in 1939. I suspected that she had probably been influenced by Tolstoy because she wore peasant clothes and enjoyed doing most of her farm work herself. When I inherited her as a patient, she had an impaired heart as a result of years of untreated hypertension. She was also showing a pattern of more frequent hospital admissions for recurrent episodes of acute congestive heart failure. It seemed that she was returning to heavy farm work too soon after her hospitalizations. During one of her episodes of heart failure, I pointed this out to her and urged her to give over some of the farm work to younger people. She patted my hand and smiled, "Doctor, my problem is that I try to live by two Hungarian proverbs at the same time. The first says that to be happy in life you must throw a star into the sky, then try to catch it. The second says that he who walks in the meadow at night gazing at the stars steps in the horse manure. So, you see, I am caught." Although her behavior changed only slightly after this conversation, the understanding and sympathy it fostered between us made our subsequent engagements more happy and realistic.

The story of the countess, like its predecessors, reveals my preference for learning as much as I reasonably can about the whole life of the persons seeking my professional attention. This use of a doctor's time may be of little value when the disease is brief and uncomplicated. Thus, in many medical specialties, the effect of personal excursions such as those I have recounted is only slight. ...

But the physician who is ignorant of the patient's broader life—home, work, personal hopes and fears, and interests and beliefs—cannot help that person help himself or herself nearly as much as can the physician who possesses this knowledge and acts with it in mind.

There is excitement and fulfillment in the practice of medicine, and it is to be found in both new and old knowledge, in the clinical and the colloquial, in exchanges with patients and families, and in the essential mystery of whatever lies "just beyond the next bend in the river."

Dr. McGuire died on April 29, 1990. After Dr. McGuire's death, Marcia Day Finney assumed the responsibility of editing the manuscript for publication.

Excerpted with permission from: Lockhart B. McGuire, "Just Beyond The Next Bend in the River: Reflections on a Medical Career," Ann of Int Med 114:83-87, 1991.

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Physicians of Invention

Promoting Medical Innovation in Minnesota

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By Harvey Meyer

Minnesota physicians play a vital role in helping the state retain its reputation as a world leader in medical technology. It's not just that they're users of medical devices produced by Minnesotans or Minnesota companies; increasingly, the state's doctors are creating their own inventions and launching their own medical products companies.

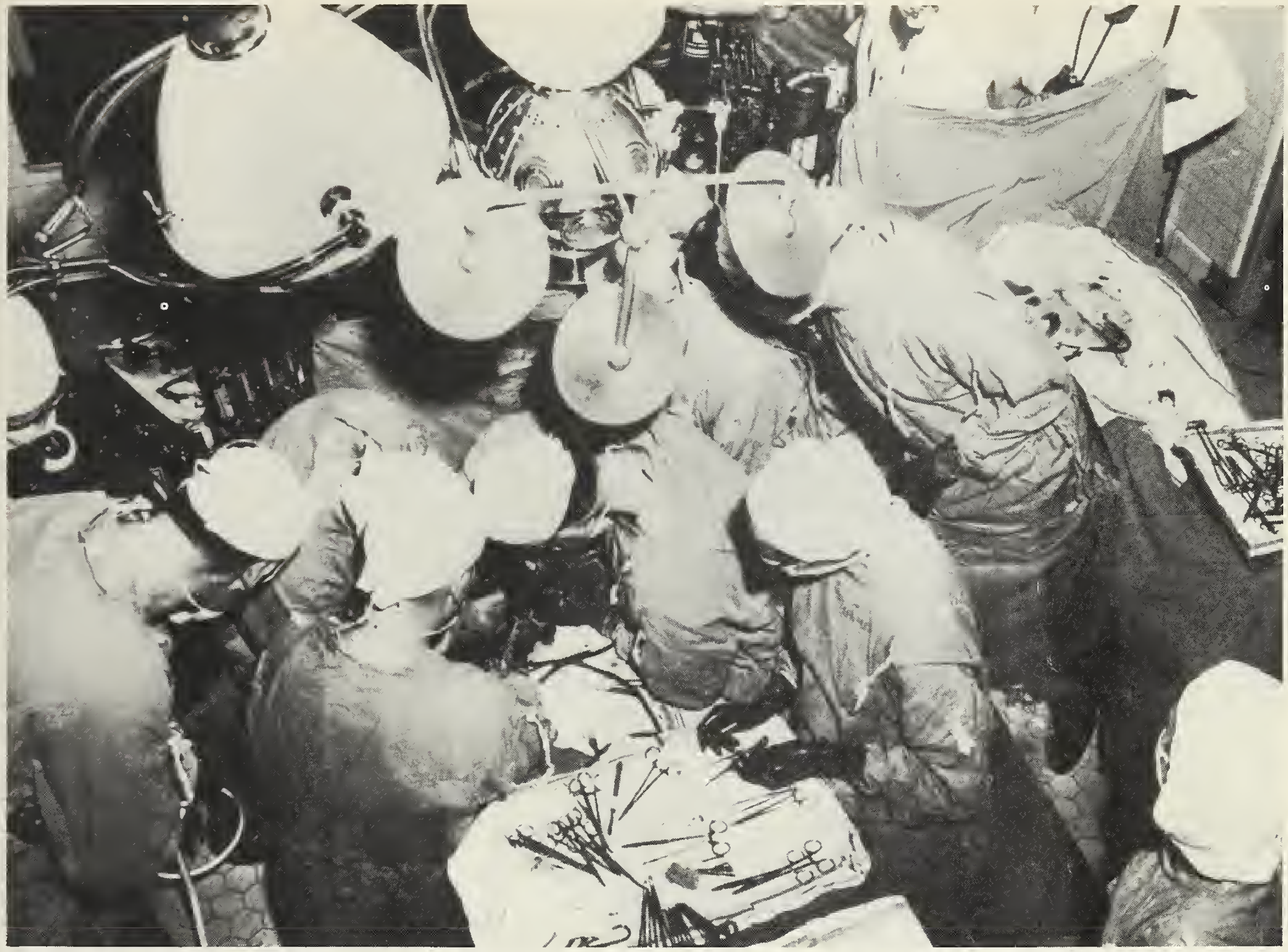
Aware of physicians' past and potential contributions to the medical technology industry, two state medical groups—Medical Alley and Minnesota Emerging Medical Organizations (MEMO)—are offering programs to spur even more inventions among the state's doctors. Also encouraging medical innovation in the state are the technology transfer operations at the University of Minnesota and the Mayo Clinic, which feature streamlined procedures for bringing medical device ideas to market.

Although there are no reliable statistics on the subject, Scott Augustine, M.D., who invented a warming system for patients experiencing perioperative hypothermia, says he and others have observed stepped-up entrepreneurship among physicians in the last five years.

"I think many doctors didn't take business as seriously in the past," says Augustine, CEO and chairman of the board of Eden Prairie-based Augustine Medical, Inc. and assistant professor of anesthesiology at the University of Minnesota. "I'm seeing a tremendous amount of interest now from doctors—people who would like to get into business, learn more about business, or even learn more about my business so they can invest in it."

As far as Augustine and others are concerned, even more physicians should consider jumping into the business world. Some physicians may feel comfortable not only developing medical devices, but also managing the resulting start-up businesses. Others may simply be satisfied garnering royalties from manufacturers that are licensed to produce their innovations. Whichever route physicians choose, they might first consider the business education programs offered by Medical Alley, a trade association whose mission is to promote Minnesota's health care industry, and MEMO, an association of developing high-technology medical products companies.

Starting in late April or early May, Medical Alley members who have questions about starting and operating health care businesses can take advantage of a program that allows them to assemble a panel of experts made up of the group's mem-



Dr. C. Walton Lillehei and colleagues perform the first successful open-heart surgery, April 20, 1954.

bers—the Minnesota Medical Association among them.

The panels, which are intended to enhance communications between various sectors in the state's medical industry, might be particularly attractive to physicians who have an idea for a medical device but are uncertain about how to proceed.

In the Medical Alley program, a physician with an idea for a medical device could contact the organization, which would then provide a list of types of experts from which the physician could assemble a panel. Medical Alley would coordinate a meeting with the experts, who would pledge confidentiality.

Medical Alley President Tom Meskan gave this possible scenario: "Let's take a Detroit Lakes clinic physician who has a great idea for a cusp on a left ankle implant. He or she might want to meet with a tooling and machining person, somebody who's worked with R & D in an orthopedics company, a marketing person, and an orthopedic surgeon. The physician would meet with these people for an hour or so and get further ideas about where he or she is going and who to talk to next."

It's possible that the Detroit Lakes physician might later team up with members of the expert panel in a business venture. At that point, the experts would probably be paid rather than act as volunteers, Meskan said.

Minnesota physicians who have ideas for medical devices can also benefit from attending Medical Alley-sponsored meetings. The meetings frequently feature speakers who discuss issues pertinent to medically related start-up companies—everything from dealing with FDA regulations to overseas markets.

MEMO, another group that encourages medical product development in the state, also features speakers who discuss issues of import to physicians with medical device ideas. As with Medical Alley, MEMO speakers discuss an array of topics, including legal issues, financing, product liability, and legislation.

MEMO's annual investment seminar, held just after Thanksgiving, may be of particular interest to physicians who have medical product ideas. The seminar showcases some of the emerging medical companies for the financial community, which includes venture capitalists.

"If someone's coming out with an idea [for a medical device], MEMO would offer them the opportunity to meet a network of players who have already gone through start-ups," says Clark Adams, MEMO officer and vice president of business development and strategic planning at Pharmacia Deltec in Arden Hills. "Plus, when you start up, you want a well-known and aggressive board of directors, and MEMO's meetings are where you'll find the players. At least 50 percent of the reason for going to a MEMO meeting is to network with other people."

Both Adams and Meskan agree that physicians would be wise to take advantage of their programs' offerings. In fact, Adams recommends that physicians with start-up companies attend both organizations' functions.

"Doctors aren't really entrepreneurs," Meskan said. "They tend to turn to their immediate community of peers, who may or may not be the appropriate network to expand on their ideas."

While most physicians may not have discovered their entrepreneurial bent, Augustine believes many have it in them.

"I think being a doctor gives you an excellent background for being a businessperson because most doctors, and especially those working in acute care, are very used to making decisions," Augustine said. "We make decisions all the time, take responsibility for those decisions, and frequently make those decisions without having all the information we would like to have. I find that's helpful background to have in business."

Still, there are others who believe doctors have no business running a business. Nothing wrong with inventing a medical device, they say, but getting involved in the day-to-day operations is another matter altogether.

"I don't recommend doctors run the business; professional managers should," says Charles Ray, M.D., a neurosurgeon at the Institute for Low Back Care in Minneapolis and president and chairman of CeDaR Development, a Minnetonka firm he founded to develop medical products. "Business is so enveloping that it's going to eat into your practice, which is what you ought to concentrate on."

Undoubtedly, worries about operating a business have dissuaded some doctors from pursuing innovative ideas. But other factors have probably discouraged them as well. Perhaps they're just too busy with their practice, or maybe they don't have the cash to get a product off the ground.

Another reason doctors haven't gotten into business is because they haven't gotten into inventions—they simply don't have the interest or inclination. In part, medical training can be blamed for this, says Augustine, who believes medical education discourages creativity.

"Medicine is largely memorizing a large data base, and then you become a problem solver, but mostly a pattern recognizer," he said. "It's not a creative endeavor. It's, 'I've seen that before and this is what we do,' and you kind of do it routinely. If you do something a little differently, you might open yourself up to liability."

Yet, despite the obstacles, many Minnesota physi-

You've Got a Great Idea . . . Now What?

So you've got an idea for a medical device. You're sure it'll be successful, but you're not sure about your next step. What you need is some advice.

Drs. Scott Augustine, Robert Van Tassel, and Charles Ray have advice to offer. All three invented medical products and started their own Minnesota companies to mass produce them. While their recommendations are not comprehensive, they are helpful for the novice physician-entrepreneur.

Augustine, CEO and chairman of Augustine Medical and a University of Minnesota anesthesiologist, first suggests that doctors view frustrations with existing medical devices as opportunities. You never know how you might improve those products, he says.

After formulating a new device in your mind, determine if there's a market for it. Since you should be knowledgeable about products used in your field of expertise, you should have a good idea of the need, said Augustine, who read 40 to 50 books on business before launching his company.

Next, check the medical literature to see if such a product exists. Ray, a neurosurgeon at the Institute for Low Back Care in Minneapolis, suggests doing a patent search yourself. "You can learn so much about what's been done in that area," Ray said. "You'll find variations on a theme that may allow you to get a patent."

After you've filed for a patent, Ray recommends assembling a group of what he calls "hostile friends"—people in your field who will rigorously criticize your device in terms of the concept, the technology, the clinical implications, and the patient selection.

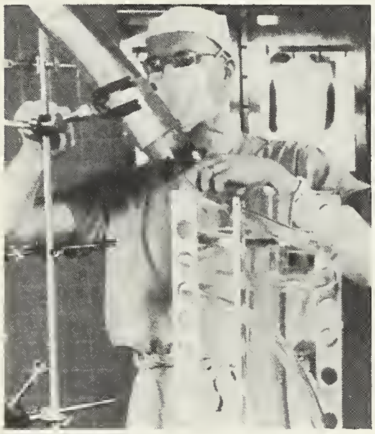
"Let them take it apart and say whether it's good, bad, or whatever. If you pass that test, you have reached something much better than what the patent office can do for you; the patent office can tell you about exclusivity, but they can't tell you about the product's effectiveness," Ray said.

To determine when, or if, you should start a company, Van Tassel recommends the following: "If you have a product that is proprietary, you have a patent on it, and it's a very large market, start your own company. If it's a nonproprietary product and a relatively small market, then go to a major company and get a royalty on it. It doesn't pay to start a company unless you have protection on your product."

Augustine agrees with Van Tassel and adds that a company's first couple products should have high profit margins. Otherwise, it may be too difficult to keep the business going. He also says physicians should consider entering the market with low-tech cians, past and present, have developed medical products. Indeed, some of the state's best-known medical technologies were invented by doctors, many of them from the University of Minnesota.

In the 1930s, Owen Wangensteen, M.D., head of the University of Minnesota's Department of Surgery, helped establish Minnesota as a medical technology leader with his Wangensteen suction tubes. The simple two- and three-bottle apparatus reduced mortality from intestinal obstruction from 50 percent to 10 to 15 percent—an important medical breakthrough for WWII soldiers. "In American military hospitals around the world, wards containing soldiers with abdominal wounds became known as 'Wangensteen alleys' because of the rows of Wangensteen suction tubes, one attached to each wounded man" (described in Leonard Wilson's "Medical Revolution in Minnesota: A History of the University of Minnesota Medical School," St. Paul: Midewiwin Press, 1989).

The university also became renowned for its innovations in cardiac surgery during the 1950s. Early in the decade, F. John Lewis, M.D., and Mansur Taufic, M.D., began experimenting with hypothermia to lower the oxygen level needed during bypass surgery. By 1952, they had produced successful hypothermia equipment, making possible the first open-heart surgery under direct vision. In September that year, they successfully closed a two-centimeter opening in a five-year-old's atrial septum after lowering her body temperature to 28° C. The first 200 intracardiac operations in the world were performed at the university.


Dr. Richard De Wall with the Model III Bubble Oxygenator.

Meanwhile, C. Walton Lillehei, M.D., and his coworkers searched for a way to oxygenate blood during bypass surgery using an artificial heart-lung machine. Lillehei believed such technology was possible through a method of bubbling oxygen through the blood, and he assigned the research to Richard A. De Wall, M.D. By May 1955, De Wall had developed the first suc-

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products; that way development costs are minimized and more dollars can be spent on sales and marketing.

"Don't ever forget that's what spurs your company on," Augustine said. "Ideas aren't worth anything . . . if you can't sell them."

As part of that promotion effort, Ray believes "it's absolutely necessary" to publish the product's capabilities in peer-viewed journals. He also suggests presenting papers to professional associations related to the field in which you're working. "Doctors often overlook this because they think their product will be bought without an authoritative recommendation," Ray said.

"Ideas aren't worth anything if you can't sell them."

—Scott Augustine, M.D.

When choosing an attorney, accountant, investors, and other professionals, look for people with experience in the medical products field or with emerging companies. Or, as often is done when attempting to finance a company, contact your friends.

"The thing to understand is, the further along you are on your project, the better it looks to other investors," Augustine said. "People can see things more clearly when they're right out in front of them. Also, the cut you get is directly proportional to the risk you take."

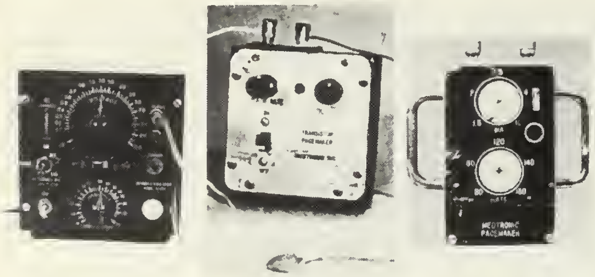
For advice about other steps involved in start-ups—obtaining FDA approval, establishing a corporate structure, developing a business plan, obtaining patents, assembling a management team, and the like—talk with other medical products companies similar to yours that have cleared those hurdles.

Van Tassel says physicians should be willing to put blood, sweat, tears, time, and money into the company. "If you're really busy in your practice and you're not willing to dedicate time to a business, you're better off giving a license to an existing company and taking a royalty from it," he said.

Says Augustine: "There's nothing magical about starting your own business. It's just a series of steps. If you believe in what you're doing and have an interest in it, I really recommend you give it a shot. It's straightforward. It's common sense."

cessful bubble oxygenator, and by August 9, Lillehei and his group had used the oxygenator for seven open-heart surgeries with only two deaths, neither of which was related to the oxygenator.

Lillehei and his team went on to develop the first heart pacemaker with wires attached directly to a patient's heart. Their pacemaker was successful, but Lillehei and his colleagues became frustrated by the size and danger of the early machine. In addition, patients were unable to move beyond the length of the pacemaker's cord, which required an outlet. Early in 1958, Lillehei asked Earl Bakken, an electrical engineer who had occasionally repaired electrical equipment in the university's operating rooms, to develop a simpler model, and within a few weeks Bakken returned with a small battery-operated pacemaker. The rest is history, as Bakken went on to form Medtronic, Inc., now a Fortune 500 medical supplies company, that, among countless other devices, produces the world's smallest pacemaker.



L.: Lillehei and team's first pulse generator used in a human patient, 1957. M.: First transistorized pacemaker with a self-contained battery. R.: First Medtronic battery-driven pacemaker designed for patient use.

In 1975, Henry Buchwald, M.D., and his U of M colleagues invented the world's first implantable medication infusion device, known today as the Infusaid Pump. The device, which allows a patient to leave the hospital while continuing to receive a slow, steady flow of medication, is approved for use in heparin delivery, chemotherapy, intraspinal morphine for pain control, and insulin for patients with Types I and II diabetes mellitus.

Dr. Henry Buchwald with infusion device.

Mayo Clinic physicians have also been responsible for a host of inventions. The clinic currently holds 27 patents and has issued 66 licenses to companies that are producing Mayo-invented products, many developed by Mayo physicians. In turn, the clinic receives a percentage of gross sales.

The main goal of the six-year-old Mayo Medical Ventures Technology Transfer Division is to make Mayo inventions available to the public primarily through license agreements with commercial firms (see related interview, page 11). Royalties earned from the licenses are distributed to the inventor (who can garner 20 percent of the royalties—up to $20,000 per year), to the physician's research or special-purpose account, and to Mayo's general fund.

Mayo project managers first evaluate the commercial potential of each idea or invention and then determine whether patenting or copyrighting is needed. If the product or idea remains viable, the managers contact companies potentially interested in a licensing agreement. Some inventions are being used at Mayo while patents are pending. This makes the products more commercially attractive because they have proven effective in a clinical setting.

Of course, the inventive strain is not limited to Mayo and U of M physicians, although those institutions' technology transfer operations can make it easier to bring product ideas to market. Many other devices have been, and are being, developed by Minnesota doctors, some of whom now run their own medical companies.

Following is a look at three Minnesota physicians who developed products and then launched businesses based on their innovations. As their stories reveal, the path to operating a successful business is not always methodical, predictable, or easy.

- **Scott Augustine** says he's been an inventive sort ever since he was a kid. So it isn't entirely surprising that he has become a physician-inventor. As an anesthesia resident working at the Naval Hospital in San Diego in the early 1980s, he was struck by how often patients experienced perioperative hypothermia and by the ineffectiveness of the devices used to treat the problem.

"There was evidence that if you turned up the room temperature, it would help, but that was impractical," Augustine said. "So I took that notion and condensed it down, thinking if we could create a small room around the patient and put warm air in it, we could go up to 110 degrees or more. So I essentially developed an overgrown hair dryer that inflates. A disposable cover goes over the patient and creates kind of a Quonset hut."

In many ways, that was the easy part. In 1987, Augustine launched Augustine Medical while working in private practice in Kansas City. But he decided to base the company in Minnesota, in large part because of the state's well-established medical products manufacturing community. He figured he could tap into the expertise of lawyers, accountants, and others who were associated with the industry.

But things didn't go quite so smoothly. Forced to dismiss several top managers, Augustine had to take a more active role in the business, hopscotching between Kansas City and the Twin Cities. Despite his inexperience, it was up to Augustine to lead the company through a maze of requirements, including the filing for patents and Food and Drug Administration (FDA) approval.

The Bair Hugger Patient Warming System was brought to market in July 1988. And while Augustine, who moved up to the Twin Cities in May 1989 and assumed his post at the University of Minnesota, hoped for higher sales the first year, he recognizes market acceptance of medical products is slow. "Even if you put a cure for cancer in a black box, it takes a while for people to accept it," he said.

Second-year sales reached $2.7 million and third-year sales are expected to be twice that. As of early January, Augustine Medical was deriving all its sales from the Bair Hugger, but Augustine is confident the firm's six critical care-related patents, including 12 patents pending, assure that new products will soon be supplementing that revenue.

- **Robert Van Tassel** was performing occasional autopsies as a fellow in cardiology at the old Miller Hospital in St. Paul when an instructor pointed out that some people had suffered artery damage following coronary angiography. Later, in 1983, as a consulting radiologist at the Minneapolis Heart Institute, Van Tassel developed an idea for a soft-tip catheter whose distal end didn't damage patients' arteries.

He took the idea to an engineer, who drafted a schematic design, and Angiomedics was born.

As with all medical products firms, Angiomedics had to clear a number of hurdles before bringing its product to market. Van Tassel, who was operating the company out of his 12-by-12 office at the Minneapolis Heart Institute, filed for a patent.

Not necessarily in this order, he met with an attorney to set up the corporate structure, developed a business plan, sought and received venture capital, assembled a management team, and moved to another office space—all while maintaining his practice at the Minneapolis Heart Institute.

Angiomedics, which by now had absorbed another company, then sought and received FDA product approval—just about the time it was ready to begin production. In new quarters in Plymouth, the company immediately began development of other catheter-related products.

"It became apparent to us that if we were going to get some really big [sales] numbers, we needed a corporate partner with a lot of money," Van Tassel said. The company settled on Pfizer Pharmaceuticals and is now part of Schneider U.S.A., a Pfizer hospital products group.

- **Charles D. Ray, M.D.**, a neurosurgeon at the Institute for Low Back Care, is also trained as an engineer. "I look at things from a clinical point of view and from a material science point of view," says Ray, who started CeDaR Development Corp. in 1985 to develop medical products for other companies, and, eventually, for his own practice.

Originally, the company developed medical product designs for a Michigan-based company. Then, anxious to find out what he could do on his own, Ray started CeDaR Surgical in 1986 and developed, among other things, an operating table platform used for lower-back surgeries.

As part of a contract with another company, CeDaR Surgical mass-produced Ray's devices. The products were to be sold to hospital purchasing agents under that company's name, but the firm, which he declines to name, wasn't selling the products; it was warehousing them while it concentrated on other devices. As a result, Ray had to lay off most of his 12 employees.

All was not lost, however; Surgical Dynamics, based in Alameda, California, bought CeDaR Surgical's assets, including the operating table platform and a "fusion cage system." In return, CeDaR Surgical receives royalties, amounting to 6 to 10 percent of gross sales, for the products sold.

Recently, Ray relaunched CeDaR Development and is developing an artificial lumbar disc that he hopes to have ready for implantation in humans in about 18 months. At that time he'll have three options: First, he could obtain more capital, further develop the product, and then offer it for sale to a larger corporation; he could find a corporate partner to develop it further; or he could produce the artificial disc on his own.

> "Doctors tend to turn to their immediate community of peers, who may or may not be the appropriate network to expand on their ideas."
>
> —*Tom Meskan*

Both Van Tassel and Augustine said they were fortunate to work with talented attorneys, accountants, and knowledgeable investors when they started their businesses. But both also said they would have benefited from organizations that provide support during the start-up phase.

"I had quite a bit of help," acknowledges Van Tassel. "If I hadn't, it would have been nice to have had a comprehensive service come in and sort of hold my hand. That would have been tremendous, because no doctor I know has the wherewithal financially and intellectually or the training to do everything that's needed in business. Many of the things in business are foreign to what we do in medicine."

Medical Alley won't exactly hold the hand of a physician who has a medical product idea, but it will help that physician get off to a good start in the world of medical technology, says Meskan.

"There's a wealth of great ideas out there, and we want to create an environment for that wealth of knowledge, both in terms of product development and product sales," Meskan said. "We want to encourage more innovation and excellence in medical technology." MM

INSTRUCTIONS FOR AUTHORS

Minnesota Medicine is the official journal of the Minnesota Medical Association, and its purpose is to provide Minnesota physicians with timely information regarding all aspects of medicine so they can more capably serve their patients and more readily achieve their professional goals. Therefore, the editors are pleased to consider for publication clinical and health papers (clinical studies, reviews, case reports) and essays, letters, poems, and opinion pieces related to medical practice in Minnesota.

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Submit clinical articles, essays, letters, book reviews, and other manuscripts at any time to: Meredith McNab, Managing Editor, *Minnesota Medicine*, 2221 University Avenue SE, Suite 400, Minneapolis, MN 55414. Manuscripts are reviewed by the editors and peer reviewed by the Advisory Committee, the Review Board, and other experts in particular specialties.

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A cover letter should identify the author with whom we correspond (include address and phone number). Double-space all text on one side of paper only, including references, legends, etc., and number pages consecutively.

Receipt of manuscripts is acknowledged within 10 days, and authors are usually notified whether their manuscript is accepted within one to three months, but longer delays are sometimes unavoidable.

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The first page of the manuscript should include: 1) a title—make it short, specific, and direct, 2) the full names of all authors, with their academic degrees, 3) authors' positions in hospitals or other institutions—include current position and the position held when the work reported in your manuscript was done, as well as academic appointments and other information pertinent to the paper's topic.

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The second page of the manuscript should include an abstract no longer than 150 words that highlights for the reader the essence of the authors' work. It should focus on facts rather than descriptions and should emphasize the importance and uniqueness of the findings and briefly list the approach used for gathering data and the conclusions drawn.

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Tables must have a title and be on separate pages. If they occupy more than one page, type "*title* (cont.)." If the data in the tables have been previously published, appropriate reference should be given in the text, and permission should be obtained from the original publisher before submission to *Minnesota Medicine*.

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Submit two copies of illustrations, keeping one for your files. Figures should be professionally drawn or photographed, if possible. We prefer glossy, clear black-and-white photographs, but color is acceptable if the contrast is good. Do not send original artwork.

Each figure should have a label pasted on the back indicating the figure number, author names, and the top of the figure. Legends should be included in the text of the manuscript with numbers corresponding to the figures. Do not mount figures on cardboard, write on the back of the figures, or attach paper clips to them. If a patient in a photo is identifiable, a written release form from the subject must accompany the photo.

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All references must be cited in the text and should be arranged in the order in which they are cited in the text—*not* alphabetically. Journals should be abbreviated as in *Index Medicus*.

Examples:

1. Benson RC Jr.: Laser photodynamic therapy for bladder cancer. Mayo Clinic Proc 61:859-864, 1986.
2. Guttormson NL, Bubrick MP: Mortality from ischemic colitis. Dis Colon & Rectum, to be published.
3. Chaterjee SN: Use of GOR-TEX grafts as vascular access procedure for chronic hemodialysis. Abstract of a paper submitted to the European Society for Artificial Organs Eighth Annual Meeting, Copenhagen, August, 1981.
4. Thompson NW: Thyroid and parathyroid, in Welch KJ, Randolph JG, Ravitch MM, et al. (eds): Pediatric Surgery, ed 4. Chicago, Year Book Medical, 1986, vol 1, pp 522-533.

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What is Basic Medical Care?

Medical Benefits Task Force Report

***Editor's Note:** MMA President Richard B. Tompkins, M.D., sent this letter to newspapers throughout Minnesota following the release of the Medical Benefits Task Force Report, which follows on page 26.*

Basic medical care should be available to everyone regardless of an ability to pay. The Minnesota Medical Association, which includes most of the physicians in our state, supports this principle. Last year, 400,000 people in Minnesota were without insurance at some point. As physicians, we are concerned about them. People who don't have insurance tend to put off visits to the doctor for basic primary care—the kind of care that keeps a minor illness from becoming serious, perhaps even life threatening.

Momentum is building at the Minnesota Legislature to find a statewide solution to the problem of care for the uninsured. During the 1991 session, Minnesota lawmakers will consider legislation based on the Health Care Access Commission's proposal to provide basic health care for all Minnesotans.

This raises a crucial question: What is "basic" health care?

To answer in specific terms, the MMA put together a task force that included a broad cross section of our society. Serving on the Medical Benefits Task Force were representatives of consumer groups, labor and senior organizations, the business community, insurance companies, hospitals, and physicians from a wide range of medical specialties and various areas of the state.

The goal of the task force was to identify the minimum level of medical benefits that should be made available to all citizens regardless of their ability to pay. The task force evaluated more than 100 medical procedures in terms of their ability to preserve life, relieve suffering, prevent and detect disease, promote public health, limit disability, and provide effective and efficient service.

> "This report sets a universal floor—a safeguard for Minnesota's high standard of health care."

The Medical Benefits Task Force Report defines as "basic" 60 medical procedures that must be included in any health insurance package, not just a plan for the uninsured. Among these basic services are obstetrical care; prenatal health education; well-child care; preventive check-ups and immunizations; emergency hospital, physician, and ambulance services; and surgical services.

In addition, the task force identified as "desirable" medical services that have potential benefit but need not be required in every plan. It rates as "optional" services that the task force recommends be left to individuals or businesses to provide if they choose, but which should not be covered by a state subsidy.

Although their decisions were driven by medical, not economic, factors, the task force members considered it essential to have incentives for efficiency and effectiveness for each service. By defining a service as "basic," the task force didn't necessarily mean that it should be available to everyone in unlimited fashion. The task force recommends that access to most services be limited by specific caps or dollar limits, copays, co-insurance, or other limitations to control costs. However, no limits should be placed on prenatal and well-baby care. The benefits to the baby and the long-range savings that result from early, preventive care are well-documented.

The task force has distributed its report to Minnesota legislators in hopes that it will help guide them as they consider health care access reform. In the weeks ahead, legislators will face such difficult questions as: Should Minnesota create a universal health plan? How should the plan be funded? In view of the budget shortfall, legislators could be tempted to consider a bare-bones, minimum-cost package that falls below the level of medical care the task force defined as "basic." This would be a serious mistake. It could lead to a two-tiered system in which some people would still not have access to adequate medical care.

As a community, we must draw the line and say, "This is absolutely the minimum level of medical coverage that should be offered to anyone—not just to the uninsured." That's why the task force has devoted months of time and effort to developing this package of basic benefits. The task force report sets a universal floor—a safeguard for Minnesota's high standard of health care.

We have reason to be proud of our state's health care system. A recent survey named Minnesota the healthiest state in the nation. But we can do even better. As a community, we can broaden the number of people who have access to basic medical care.

Following is the report of the Medical Benefits Task Force, chaired by A. Stuart Hanson, M.D.

Charge to Task Force

In the spring of 1990, the Board of Trustees of the Minnesota Medical Association determined it would establish a task force to work on issues related to defining basic medical care. This action was ratified by the MMA House of Delegates at its 1990 Annual Meeting.

Physicians from a range of medical specialties and practice locations were invited to serve on the Medical Benefits Task Force along with groups outside of medicine, including academic, business, consumer, insurance, labor, and senior organizations. The group's charge was to define a package of universal and equitable minimum medical care benefits, to identify and make recommendations on levels of care above the minimum, and to monitor other initiatives to assure levels of access to care.

Task force agreement

The Medical Benefits Task force accepted the following charge (italics added by the task force):

- To define a package of *universal and equitable* minimum medical care benefits,
- To identify and make recommendations on levels of care above the minimum, and
- To monitor other initiatives to assure levels of access to care.

Discussion

The task force discussed its charge at length. Members were concerned that identification of a level of care above the minimum could imply that the basic package left something to be desired. Members also expressed concern that identifying a level of care above the minimum might be seen as endorsing the development of a two-tiered system of care.

On the other hand, by simply identifying a basic package, the task force would not be establishing a continuum of services. It was pointed out that the task force's charge to define levels of care above the minimum implies setting priorities above the basic level.

The task force reached a consensus that the basic package was intended to be a universal, absolute floor—a level of care below which no citizen should fall. It was proposed that the group's initial emphasis be on reaching agreement on this absolute level, the presumption being that in examining services, the task force would identify priorities.

The task force adopted one clarification to the charge, specifically stating that the basic benefit set was to be a universal package, one that would apply not only to participants in any particular program, but would serve as a universal floor applicable to all citizens.

Agreement for Participation

Task force agreement

The task force adopted the following agreement for participation:

1. All members of the task force agree to bring their personal and/or organizational points of view to the table, representing those points of view as best as they are able.

2. All members of the task force recognize that members who have been asked to attend based on their organizational affiliations cannot speak for their boards, and that their comments and contributions are not binding on their organizations.

3. Members of the task force will discuss the findings of the group with their colleagues and organizations, and if those colleagues or organizations are able to respond formally to the task force report, they will communicate that fact to the members of the group.

4. The task force will encourage consensus, but should there be a need for presentation of alternative opinions and approaches, members will be encouraged to state those ideas in order to provide the fullest possible representation of its deliberations. Such alternative points of view will be published as part of the task force report.

Discussion

The task force membership was drawn from a wide range of groups and interests, including groups that do not traditionally work together. In view of this unusual composition, the task force defined organizational commitments, the MMA's role in the process, and procedures for handling disagreements.

Because the report was developed quickly, there was insufficient opportunity for other organizations to be formally involved in the process. Only after this final report is disseminated will most organizations be able to respond to the task force's work.

In some cases, constituencies represented by members of the task force are so broad that even given unlimited time, it would be impossible to obtain a formal commitment by that constituency; in those cases, it is hoped that their participation will be viewed as an indication of the sincerity of the effort to draw a wide range of viewpoints into the process.

The MMA's role was to provide a forum for discussion. It had no intent or desire to dominate the process. This report is the statement of the task force itself, to which all organizations represented, including the MMA Board of Trustees, may formally respond. It is likely that interested organizations will find points of disagreement as well as points of agreement.

Several members of the task force spoke in favor of including full expression of disagreements in the report. In seeking consensus on all points, the task force concluded it would risk watering down the results, losing good ideas in the process. Thus, to improve the usefulness of the document, points of disagreement and discussion are included, allowing the reader to examine areas of disagreement as well as consensus.

Values and Principles

Task force agreement

Underlying Values: Although task force members brought many perspectives and priorities to the process, they accepted the following values as shared principles:

- All citizens are entitled access to basic medical benefits—an equitable, universal minimum below which no person should be allowed to fall. Not all forms of medical care are "basic," however, leading to the effort of this task force to establish that definition.

- The task force concentrated its efforts on financial barriers to access to care, while recognizing that geographic, cultural, and other barriers also exist and must be dealt with in order to attain universal access. The task force also focused on the effects of medical care on health, while recognizing that medical care is just one of many elements affecting health.
- The goal of the health care system is to maximize the health status of the community, allowing each individual to have as healthy a life as possible given available resources. This should occur within a humane system that respects each individual's dignity and autonomy, including the individual's right to informed consent.
- The health care system must include incentives to encourage the efficient provision of effective services, where efficiency is defined as the extent to which an appropriate service is provided for the least cost, and effectiveness means the extent to which the service is of high quality and has the desired outcome. In addition to these measures, less concrete indications, such as overall patient satisfaction with the course of treatment, need to be evaluated.
- Innovation and improvement should be encouraged within the health care system, and the effectiveness of those improvements should be subject to evaluation. This is not to say that experimental or other unproven methods should automatically be incorporated into a basic set of coverage. Over time, however, the definition of the basic set will change. New treatment methods will have to be evaluated based on the same criteria used to establish the initial benefit package. At the same time, existing coverage must be re-evaluated to ensure that services do not remain in the package once new, more effective treatments become available.
- Health promotion, disease prevention, early disease detection, and health education are important elements of care and should be encouraged.

Specific criteria: The task force considered the following elements when deciding upon the ranking of medical services:

- Promotion of public health,
- Prevention and early detection of disease,
- Preservation of life,
- Relief of suffering,
- Limitation of disability,
- Effectiveness of service,
- Efficiency of service.

(The task force did not rank these elements in importance.)

When addressing coverage limitations, the task force agreed that:

- Copayments and deductibles may be applied in areas in which consumer choice is a factor, where there is elasticity of demand, and for which consumer education is important.
- Caps on the dollar amount or quantity of services may be applied to services for which there are diminishing returns, or to those for which there are concerns regarding the relative benefits of the service.
- Diagnoses-specific limits may be applied to services for which coverage can justifiably be limited to a subset of all circumstances in which the treatment might be proposed.

While task force members generally shared these values, this summation does not reflect the breadth of opinions expressed by the members, nor does it reveal the depth of concern with which the group addressed the importance of values.

Discussion

The task force held an extensive discussion about the underlying values and principles that should govern its decision-making process. Although its members had been chosen to represent a broad diversity of backgrounds and opinions, the task force considered a common set of criteria and values vital to developing a framework within which to examine specific medical services.

Individual value listings: As a first step in the discussion, members were asked to list their individual values. This exercise revealed the range of concerns held by the group's members, as well as the importance they placed on the role of values. Most often mentioned was the core value of universal access, closely linked to the need for high-quality care. Justice and fairness were mentioned as an underpinning of that value.

Relief of suffering and maintenance of an optimum level of health with good quality of life were each mentioned by several task force members as important in defining basic medical services. Prenatal and well-child care were also highly valued. Conversely, members felt that experimental treatments should be excluded from a basic package.

Task force members pointed out the need for individual patient responsibility, with sufficient education and incentives to maintain healthy lifestyles. Several members cited the need for provider choice of practice location and patient choice of provider, and the need for maintaining an adequate provider network, especially in underserved areas.

Center for Biomedical Ethics draft values: As a resource in this discussion, the task force reviewed a set of values under development by the Minnesota Center for Biomedical Ethics. Still in draft form, these values have not been set into a framework and, therefore, contain inherent contradictions that must be resolved.

Nonetheless, the task force used the values developed by the Center for Biomedical Ethics as a discussion item to consider in the development and implementation of health policy. The task force did not adopt the values or endorse them as stated, but considered them in its deliberations.

The task force took these values into consideration:

Access/fairness: Each person should have fair access to an adequate level of health services. This requires minimizing financial, geographic, social, and cultural barriers to care. Fair access requires a distribution of resources acceptable from an "objective," impartial point of view, wherein like cases are treated alike and different cases are treated differently in direct proportion to the differences between them.

Patient autonomy: Patients have

the right to information material for informed care decisions and to be informed about their physician's financial incentives. Patients have the right and responsibility to make informed voluntary care decisions (including the right to refuse care). No care can be initiated without the patient's (or proxy's) informed consent. Patients have a right to be treated with respect and dignity.

Individual responsibility: Each person has an obligation to take appropriate steps to maintain one's own health (to the extent that society empowers them to take such responsibility). Each person should be prepared to bear, to the extent possible within their means, the costs of purchasing adequate health insurance and health care services.

Quality: Quality care is care that maximizes the likelihood of desired health outcomes for individuals and populations and is consistent with current and emerging professional knowledge and is humanely and respectfully provided.

Personal advocacy: Health care providers should zealously promote individual patients' best interests—with due regard for the interests of others.

Collective responsibility: Society has a shared responsibility to assist those in need of health services, regardless of cause or source of need.

Social advocacy: Health care providers should advance the public's health. Health care providers should recognize and provide for the health care needs of the poor, underserved, and other vulnerable segments of the population.

Efficiency/cost-effectiveness: The health care system should achieve desired outcomes with a minimum of expenditure, thereby providing good value for money spent.

Provider autonomy: Providers should have freedom to practice medicine to the best of their ability without undue interference of others. Providers should have the freedom to refuse patients (except in emergencies or if discriminatory); providers should receive a fair price for services; and providers should be free from conscription (e.g., to practice in a specific location) while maintaining liability for actions. The medical profession should have the freedom to control medical education, set criteria for entry into the profession, and control the professional certification process and standards.

Consumer sovereignty: Consumers have the right to information material for an informed choice among health care plans and health care providers, including the cost and coverage levels of health care plans, list of providers participating in health care plans, and the quality and efficiency of providers. In a market for health care plans, consumers should have the freedom to choose among competing health care plans and in a market for health care services, the freedom to select a health care provider, specialist (without referral), and site of care.

Personal security: The health care system should contribute to the individual's financial security and peace of mind by assuring that health care needs will be met.

Social cohesion: The health care system should engender a sense of social solidarity.

Several task force members disagreed with some of the wording of the values and with some substantive points expressed in the document. For example, access to a specialist without referral is listed as a value under the heading of consumer sovereignty, despite social movement toward reducing such access. It was also suggested that many parts of the document were based on the health care system as it exists and that those portions could be construed as limiting fundamental reform.

Until the Center for Biomedical Ethics assembles these draft values into a framework, they are useful primarily as a stimulus for further analysis and discussion. Thus, the task force did not use the list when determining benefit choices. Despite the limitations of the draft values, inherent in any work in progress, the task force expresses its gratitude to the center for contributing the draft material.

Task force value inquiry

From the draft value structure supplied by the center, the task force identified four questions as especially relevant to defining basic medical services. The task force added the fundamental question, "What is the goal of health care?" resulting in the five discussion items below:

1. What is the goal of health care?
2. How do we define and attain access, fairness, and justice?
3. What is the importance of efficiency and cost-effectiveness?
4. What is the value of public participation?
5. How are the individuals making decisions to be held accountable for their decisions?

Examination of these questions led the task force to develop its statement of shared values described earlier (pages 26 and 27). Members also discussed the importance of informed consent, the social definition of health care and the setting of limits, the definition of health care and of fairness, and the importance of individual autonomy in implementing social goals.

Members viewed individual responsibility through informed consent as a crucial component in defining the goal of health care, especially when conflicts arise between the goals of preservation of life and relief of suffering. The "living will" process was designed to allow the individual to be directly involved in those choices. In contrast to these life-and-death issues, much patient-physician contact involves less dramatic interventions. The framework of values must include a role for those services as well, incorporating issues of efficacy.

To define the goal of health care also requires the definition of the desired level of health. Public education was cited as a case in which society has defined a level above which individuals are not guaranteed access to a given service. Complicating the issue of defining a minimum level of care, health is affected by many factors not traditionally considered "health care." There is a tendency to expand the definition of health care to incorporate what were once thought of as social or educational services.

It was proposed that the goal of health care be defined as a positive impact on the patient's health, as "the preservation of life with reasonable quality." In many cases, medical intervention can do little to preserve life. Recognizing those cases, some members proposed that the goal of health care could include "allowing the patient to die with dignity."

Discussion of access and fairness issues led to the suggestion that fairness can best be defined in a negative sense, as the absence of discrimination—the absence of denial of care due to ability to pay.

The task force also noted that society has a vested interest in ensuring access to health care in order to achieve broad social goals. Given the constraints acknowledged by the task force, that access will not be unlimited. Within those constraints, however, a mechanism must be established to provide for individual exceptions in extraordinary circumstances. A mechanism is needed through which citizens could petition for access to particular services. Throughout the discussion of values, this dichotomy between social and individual perspectives was highlighted, not only as a crucial issue for the task force, but also as a day-to-day issue in current medical practice.

Background Assumptions

Task force agreement

After careful consideration, the task force concluded that society has a limited willingness to devote additional resources to medical care as those resources are now allocated. The high percentage of resources devoted to administrative overhead poses a particular problem. While a majority of the members concurred with this point of view, others supported the stronger statement that we cannot provide all beneficial medical care to all people, hence our task becomes to provide basic medical care to all people. Other members were uncomfortable with the concept of limits, however worded.

The task force also found it useful to highlight these points:

1. Some Minnesotans lack health insurance during the year or a portion of the year, and others carry inadequate insurance that limits their access to care.
2. That lack of insurance can prevent individuals from seeking needed care. This has the potential to cause more serious disease, requiring more resources and restricting those individuals' ability to contribute to society.
3. Minnesota has the resources to provide high-quality health care. Those resources include physicians, nurses, and other care-givers, and hospitals, clinics, and other health care institutions.
4. Minnesota has the second-lowest proportion of uninsured residents among all the states, rendering the problem more manageable here.
5. Rural areas of Minnesota face particular difficulties in attracting health care providers and maintaining a strong health care delivery system.
6. Minnesota has a strong system of managed care providers dedicated to the goal of providing effective care in the most efficient manner, although those resources are not uniformly distributed across the state.
7. Medical care is only one component of a broader spectrum of interventions that affect health.
8. The Medicaid system has eroded in terms of adequate funding and reimbursement and in terms of participation and access.
9. Health care provides many jobs in Minnesota and represents a significant segment of the economy.
10. Minnesotans enjoy one of the highest levels of health in the country. The state tied for first place in a recent national study of all 50 states and was above the national average in 15 out of 17 categories measured.
11. Minnesota has a long tradition of support for education, health, and welfare initiatives.

Discussion

At the core of the task force's work was determining the nature of those limits, if any, that constrain our ability to provide medical care.

Those limits fall into many categories. Resource limits include available dollars as well as personnel and facilities in some areas. In addition to resource limits, there are also absolute limits on the ability of medical care to achieve certain outcomes at any point in time.

Public expectations play an important role in this debate, especially in light of the past heavy subsidization of new technology, which has insulated the public from the costs associated with that technology. Unreasonable expectations of unlimited access to perfect outcomes make it more difficult to address possible means of expanding health care access.

The task force discussed whether financial limits represent an inability to pay or an unwillingness to pay. Although the practical outcome may be the same, the task force found the distinction important in framing the discussion.

It was also pointed out that the willingness of payers to accept higher outlays for medical care is linked to their perceptions of the value they receive for their dollars. It was noted that some payers see physician income as excessively high. A recent study comparing U.S. and Canadian physician incomes and productivity was cited to support that argument. That study also noted that a high level of amenities in U.S. medical facilities adds to the cost of care in this country.

Categories of Services

The task force sought to identify the full range of health care services in order to provide a framework within which the group could validate the comprehensiveness of the universal medical benefit set.

Medical care services form a continuum but can be viewed as fitting into three large groupings:

1. Services needed by everyone (i.e., immunizations),
2. Services needed by some (i.e., tumor care, diabetes care),
3. Services that may be advisable (i.e., annual physical as opposed to physical every third year).

It was noted that some medical services are of no proven benefit. It was also suggested that, in practice, additional clarification of the term "need" is required. For example, emergency cases may have a higher level of need than routine care.

The following categories of care exist within those large groupings:

1. Prenatal and maternity care,
2. Infant (well-child) care and immunization,
3. Periodic evaluation and screening,
4. Treatment and rehabilitation of injury,
5. Diagnosis and treatment of illness and dysfunction,
6. Terminal care.

The task force noted that medical care is just one component of the range of private and public actions that affect health. For example, improving highway safety may reduce trauma, but it is not a form of medical intervention. The task force felt it was important to distinguish between medical interventions and other factors that affect health, particularly in light of a growing tendency to define desired social goals as "medical" in order to attain funding through the medical care system.

Covered services

The task force followed a six-step methodology to determine which services it would recommend for coverage.

1. A list of service categories was distributed to task force members. This list was drawn from a variety of sample benefit packages and used the language of insurance policies to facilitate comparison between plans and eventual actuarial analysis. Task force members refined the list and added services to it.
2. A trial ranking was conducted to test the validity of the categories and to develop a more workable instrument.
3. A second decision worksheet, incorporating revisions drawn from the trial round in step 2, was distributed to the task force, separating the services ranking from the coverage limitation issues.
4. Following an attempt to identify remaining problems of interpretation and definition, a third decision worksheet was distributed to the task force.
5. After reviewing the rankings developed in step 4, the task force discussed those services that some members felt were improperly assigned and refined its definition of values.
6. In the final step, the task force repeated the decision exercise, taking into consideration questions raised in the previous round and the refined statement of values. Then, the services were categorized and final adjustments were made.

Although task force members attempted to apply shared values in decision making, they also acknowledged that the process was imperfect and that an unavoidable element of subjectivity entered into all decisions. In many cases, detailed information regarding outcomes was unavailable. Finally, the task force did not attempt to construct a framework that would formally link the decision on each service to the set of shared values.

Despite these limitations, the group felt that it was worthwhile to proceed, using an iterative process to move toward a clearer and less subjective product. Although members agreed that information will always be less than perfect and objectivity less than pure, they concluded that those constraints should not paralyze action.

In the last three decision rounds, members had been asked to determine whether each service was "essential," "desirable," or "optional." These terms were defined as follows:

Essential: A service that must be included in any definition of a universal medical benefit set—*the category defined as the universal, equitable, minimum benefit set.* This does not necessarily mean that the service will be available in an unlimited fashion; specific caps or other limitations could still be applied.

Desirable: A service that is less important than those you rank as essential but that would be desirable if additional services above the essential were desired—*the category that should be included if additional resources were available after all citizens had access to the minimum benefit set.*

Optional: A service that should be left to the individual, business, or government to provide if wished, but not at the expense of providing the more important essential and desirable services—*the category that you feel should not be included in the minimum benefit set.*

In addition to these definitions, the task force emphasized two assumptions in its deliberations. In defining the universal, equitable, minimum benefit set, the task force was not designing a program only for those currently uninsured. The package is intended to serve as a universal floor underlying all forms of coverage, public and private. Additionally, the assumption was stressed that in defining the underlying minimum package it could *not* be assumed that exhaustion of a given benefit set would lead to spend-down into some other program.

Finally, it was a critical underlying assumption that all services would be provided only when medically necessary and would be performed within the context of existing community standards and existing community utilization control processes.

Placement of a service in the basic category did not imply that the task force recommends that service be available without limitation. To examine the issue of coverage limits, a set of additional choices was provided for each service. For this portion of the deliberations, members were asked which, if any, ways of limiting that service would be desirable. Members were able to select as many choices as they felt appropriate. These options were defined as:

No limits: Given that a service is medically appropriate, there should be no limits placed upon this service.

Number/$ cap: A limit on the number of service occasions or a dollar cap on the value of this service would be appropriate.

Copay/deductible: Use of a copay or deductible to control utilization would be appropriate.

Diagnoses: A limit on the specific diagnosis under which the service is to be provided would be appropriate.

In addition to these service-specific limits, the task force also discussed placing global lifetime limits on individual coverage for all types of services. The task force concluded that global limits were inappropriate in a universal basic benefit set. There may be a value to arbitrary limits when a safety net such as spend-down into another benefit set exists. For example, in our current system, exhaustion of a limited benefit set might lead to enrollment in the Medicaid program. The existence of such a fall-back program lessens the impact of a global benefit cap. Given the premise that the benefit set is to be the universal floor underlying coverage for all citizens, such a global cap is less supportable.

The tables on pages 32 and 33 show the results of the task force's deliberations on more than 100 medical services. In these tables, a service is considered "basic" when a majority of the members voting considered its inclusion essential in a basic benefit set. A service is listed as "optional" when a majority of the task force placed the service in that category. The intermediate category of "desirable" was applied to services falling between those two extremes. Services are listed alphabetically within each of the three groups.

In discussion following the final round of balloting, the task force reviewed services that were on the borderline between categories and examined the entire list to determine whether some services warranted reconsideration. Some services were moved from their original placement at this stage. Those items are highlighted with an asterisk (*) in the table.

Medical services are provided in a wide range of settings under a wide range of conditions to a wide range of patients. The task force acknowledges that virtually any service might be considered "basic" for a particular patient in a given situation. The goal of the task force was to further the debate on these issues while recognizing that patients and services are not homogeneous.

The task force discussed the following approach to implementing these categories:

- When the task force identifies a given benefit as basic, it implicitly recommends that government should use its regulatory and financial powers, as needed, to remove all economic barriers that limit access to that service.
- If a service is desirable, then government should use its regulatory and financial powers, as needed, to reduce barriers to access.
- If a service is optional, then government need not act to reduce barriers to access to that service.

Under the heading of "appropriate limitations," a check appears in the table only when a majority of the task force felt that a specific limitation, or no limitation, was appropriate for that service. In some cases, a majority did not select any of the choices, resulting in no checked limitations for that service. *This does not imply that the task force recommends that those services be available without limitation.* Only for the two services for which "no limits" is explicitly selected did the group reach that conclusion.

The application of coverage limitations can be a useful tool in controlling the cost of the basic benefit package. Precisely defining each limit was outside of the work of this task force, but the definition of those limitations will be important in implementing access to basic medical services.

The third category of coverage limitation, a limit on the diagnosis, was viewed broadly by many task force members. Some members incorporated the need for an overview of the case in this limitation, including the medical history and prognosis of the patient. Also, while it was an underlying assumption that all services would be provided only when medically necessary, those items listed with this limitation require special attention to ensure that only appropriate services are covered.

It was also noted, especially in regard to the purchase of eyeglasses or hearing aids, that it would be appropriate to apply a very substantial deductible for people who could afford to obtain those services without coverage, thereby limiting any payment under a basic benefit set to those otherwise unable to obtain the service.

Roster of Participants

The following individuals participated in the work of the group. Although some members may disagree with specific items in the report, all agree that the report as a whole is an important contribution to the discussion of these issues and encourage others to carry on the discussion.

Organization names are provided for identification only; this listing does not represent a commitment of those organizations to this report.

Chair

A. Stuart Hanson, M.D., Park Nicollet Medical Center

Members

Allan Baumgarten, Citizens League (with alternate Jody Hauer)
Peter Benner, AFSCME Council #6
Paul Bowlin, M.D., Fairview Southdale Hospital
Carl Carlson, Minnesota Senior Federation
Timothy Crimmins, M.D., Hennepin County Medical Center
Deborah Glass, Minnesota Council of HMOs
James Hart, M.D., St. Croix Valley Clinic
Glen Holt, M.D., Duluth Clinic
Michael Koch, M.D., Hennepin County Medical Center (with alternate Deane Manolis, M.D.)
Keith Larson, M.D., St. Cloud Neurology
Nicole Lurie, M.D., Hennepin County Medical Center
J. Paul Marcoux, M.D., Mayo Clinic
Carolyn McKay, M.D., Minnesota Department of Health
Richard Migliori, M.D., Park Nicollet Medical Center
Jack Murphy, Minnesota Chamber
Reinhard Priester, Minnesota Center for Biomedical Ethics
Steve Rogness, Minnesota Hospital Association
Robert Shannon, M.D., River Valley Clinic, Northfield
Richard Streu, M.D., Camden Physicians, Ltd.
Harry Sutton, actuary, R.W. Morey, Inc. (with alternate Robert Ingram)
George Tani, M.D., Tani Eye Associates & Clinic
James Tiede, M.D., AMC-Willmar
Tom Triplett, Minnesota Business Partnership

Staff

Stephen J. Dombrosk, Minnesota Medical Association

Continued

Tables—Medical services task force considered "basic," "desirable," and "optional."

		Appropriate Limitations		
		$ or #	Copay/	Certain
	No Limits	Caps	Deduct.	Diag.
Basic Services				
Ambulance services: emergency			X	
Blood and blood derivatives				
Dental: child preventive		X	X	
Dental: injury treatment		X	X	
Diagnostic services for acute and chronic conditions			X	
Dialysis for chronic conditions		X	X	X
Eye Care: eyeglasses, contact lenses purchase*		X	X	
Eye Care: treatment of eye conditions		X	X	
Eye Care: visual examinations for symptoms		X	X	
Family planning: medication		X	X	
Family planning: pre-conception care		X	X	
Family planning: professional services		X	X	
Hearing: examinations for symptoms		X	X	
Hearing: treatment of hearing conditions		X	X	
Hospice services		X	X	X
Hospital services—inpatient: for diagnostic services only		X	X	X
Hospital services—inpatient: for treatment of illness (bed charges including radiologic & lab.)		X		
Hospital services—inpatient: semi-private room		X	X	
Hospital services—outpatient: outpatient clinic			X	
Hospital services—outpatient: outpatient emergency services		X	X	
Implants: artificial hips*		X	X	X*
Implants: intraocular lenses		X	X	
Implants: pacemakers		X	X	X
Inhalation services: services for ventilator-dependent person (120 hours)		X	X	X
Inhalation services: other medications		X	X	X
Inhalation services: oxygen		X		X
Medical equipment: durable*		X	X	X*
Medical equipment: syringes/chemstrips			X	
Mental illness: inpatient		X		X
Mental illness: outpatient—individual therapy (physicians & other providers)*		X	X	X*
Mental illness: partial hospitalization/day treatment*		X	X	X
Nuclear medicine: diagnostic isotope scanning				
Nuclear medicine: iosotope therapy, i.,e. thyroid				
Nursing care: short-term (less than 90 days)		X	X	
Obstetrical care: delivery services			X	
Obstetrical care: postnatal care		X		
Obstetrical care: prenatal care	X			
Obstetrical care: prenatal health education		X		
Occupational therapy*		X	X	X
Pharmaceuticals: inpatient			X	
Pharmaceuticals: outpatient (restricted formulary)*		X	X	
Phenylketonuria (PKU) dietary treatment		X	X	
Physical therapy		X	X	X
Physician medical/surgical treatment (inc. rad. & lab. services): chemotherapy				X*
Physician medical/surgical treatment (inc. rad. & lab. services): coronary artery angiography				
Physician medical/surgical treatment (inc. rad. & lab. services): coronary bypass				X*
Physician medical/surgical treatment (inc. rad. & lab. services): free-standing, surgicenter-based		X	X	
Physician medical/surgical treatment (inc. rad. & lab. services): hospital-based				
Physician medical/surgical treatment (inc. rad. & lab. services): office-based		X	X	
Plastic surgical services: Cleft palate treatment				
Plastic surgical services: Craniomandibular disorder*		X	X	X*
Plastic surgical services: correction of functional disorder - congenital abnormality				
Plastic surgical services correction of functional disorder - injury or incidental to covered surgery		X	X	
Screening: cancer		X		X*
Screening: other disease screening (i.e. blood pressure/cholesterol)		X*	X	X*
Speech therapy		X	X	
Transplants: cornea		X	X	X
Transplants: kidney		X		X
Well-child care: preventive check-ups & immunizations	X			
Well-child care: well-baby care				

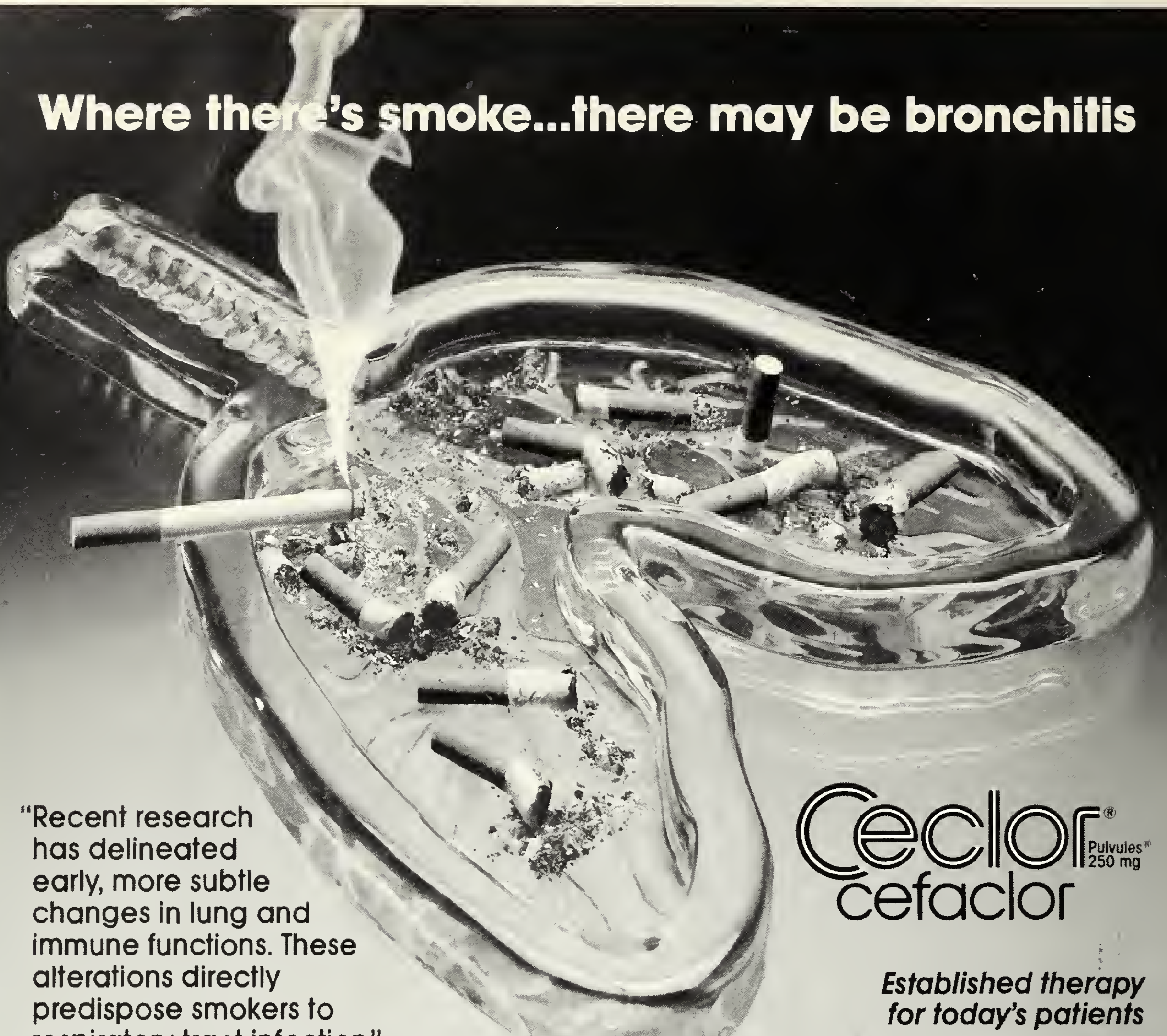
*Item was adjusted by task force

		Appropriate Limitations		
		$ or #	Copay/	Certain
	No Limits	Caps	Deduct.	Diag.
Desirable Additional Services				
Ambulance services: transport services (non-emergency)		X	X	
Chemical dependency: inpatient		X	X	
Chemical dependency: outpatient		X	X	
Chemical dependency: residential (halfway house)		X		
Dental: adult preventive		X	X	
Dental: adult treatment		X	X	
Dental: child treatment		X	X	
Dental: oral surgery		X	X	
Di-ethyl-silbestrol (DES)-related conditions			X	
Eye Care: routine vision examinations		X	X	
Family planning : abortion				
Family planning: genetic counseling		X	X	
Family planning: sterilization			X	
Hearing: hearing aid purchase*		X	X	X*
Hearing: routine hearing examinations		X	X	
Home care: for diagnosed medical condition & rehabilitation		X	X	X
Home care: long-term home care for disability		X		
Home care: long-term home care for infirmity/frailty		X	X	
Implants: artificial joints other than hips		X	X	
Implants: cochlear			X	
Mental illness: outpatient—group therapy		X	X	X
Mental illness: residential care—adult		X	X	X
Mental illness: residential facility care for emotionally disturbed children		X	X	X
Nursing care: long-term (90 days or longer)		X	X	
Obesity treatment: education/counselling		X	X	
Physician medical/surgical treatment (inc. rad. & lab. services): carotid endarectomy			X	
Plastic surgical services: reconstructive surgery		X	X	
Plastic surgical services: reconstructive surgery following mastectomy			X	
Temporomandibular Joint Disorder - (TMJ) treatment		X	X	
Transplants: bone marrow		X		X
Transplants: heart		X		X
Transplants: heart/lung		X		X
Transplants: liver				X
Transplants: lung				X
Transplants: musculoskeletal		X	X	X
Urgent Care—non-emergency after-hours care			X	

		Appropriate Limitations		
		$ or #	Copay/	Certain
	No Limits	Caps	Deduct.	Diag.
Optional Services				
Acupuncture				X
Custodial care (as opposed to convalescent nursing care)		X	X	
Experimental treatments not accepted as stand. care (not inc. drug usage other than FDA ind'ns)				X
Eye Care: radial keratotomy, or similar procedures not accepted as standard care				
Family planning: artificial insemination			X	
Family planning: in vitro fertilization			X	
Family planning: infertility treatment			X	
Family planning: reversal of sterilization			X	
Hospital services—inpatient: private room differential				
Implants: other				
Implants: penile				
Nursing care: private duty nurse (home)				
Nursing care: private duty nurse (hospital)				
Obesity treatment: surgical			X	
Plastic surgical services: cosmetic surgery				
Scalp prostheses for alopecia areata (wigs)				
Spinal-muscular manipulation		X	X	
Transplants: pancreas		X	X	X
Transplants: parathyroid*		X	X	

*Item was adjusted by task force

Where there's smoke...there may be bronchitis



"Recent research has delineated early, more subtle changes in lung and immune functions. These alterations directly predispose smokers to respiratory tract infection."

Am Fam Phys 1987;36:133-140

Ceclor® Pulvules® 250 mg
cefaclor

Established therapy for today's patients

For respiratory tract infections due to susceptible strains of indicated organisms

Brief Summary.
Consult the package literature for prescribing information.
Indication: Lower respiratory infections, including pneumonia, caused by *Streptococcus pneumoniae, Haemophilus influenzae*, and *Streptococcus pyogenes* (group A β-hemolytic streptococci).
Contraindication: Known allergy to cephalosporins.
Warnings: CECLOR SHOULD BE ADMINISTERED CAUTIOUSLY TO PENICILLIN-SENSITIVE PATIENTS. PENICILLINS AND CEPHALOSPORINS SHOW PARTIAL CROSS-ALLERGENICITY. POSSIBLE REACTIONS INCLUDE ANAPHYLAXIS.

Administer cautiously to allergic patients.

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics. It must be considered in differential diagnosis of antibiotic-associated diarrhea. Colon flora is altered by broad-spectrum antibiotic treatment, possibly resulting in antibiotic-associated colitis.

Precautions:
- Discontinue Ceclor in the event of allergic reactions to it.
- Prolonged use may result in overgrowth of nonsusceptible organisms.
- Positive direct Coombs' tests have been reported during treatment with cephalosporins.
- Ceclor should be administered with caution in the presence of markedly impaired renal function. Although dosage adjustments in moderate to severe renal impairment are usually not required, careful clinical observation and laboratory studies should be made.
- Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.
- Safety and effectiveness have not been determined in pregnancy, lactation, and infants less than one month old. Ceclor penetrates mother's milk. Exercise caution in prescribing for these patients.

Adverse Reactions: (percentage of patients)

Therapy-related adverse reactions are uncommon. Those reported include:
- Hypersensitivity reactions have been reported in about 1.5% of patients and include morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients. Cases of **serum-sickness-like** reactions have been reported with the use of Ceclor. These are characterized by findings of erythema multiforme, rashes, and other skin manifestations accompanied by arthritis/arthralgia, with or without fever, and differ from classic serum sickness in that there is infrequently associated lymphadenopathy and proteinuria, no circulating immune complexes, and no evidence to date of sequelae of the reaction. While further investigation is ongoing, **serum-sickness-like** reactions appear to be due to hypersensitivity and more often occur during or following a second (or subsequent) course of therapy with Ceclor. Such reactions have been reported more frequently in children than in adults with an overall occurrence ranging from 1 in 200 (0.5%) in one focused trial to 2 in 8,346 (0.024%) in overall clinical trials (with an incidence in children in clinical trials of 0.055%) to 1 in 38,000 (0.003%) in spontaneous event reports. Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy; occasionally these reactions have resulted in hospitalization, usually of short duration (median hospitalization = two to three days, based on postmarketing surveillance studies). In those requiring hospitalization, the symptoms have ranged from mild to severe at the time of admission with more of the severe reactions occurring in children. Antihistamines and glucocorticoids appear to enhance resolution of the signs and symptoms. No serious sequelae have been reported.
- Stevens-Johnson syndrome, toxic epidermal necrolysis, and anaphylaxis have been reported rarely. Anaphylaxis may be more common in patients with a history of penicillin allergy.
- Gastrointestinal (mostly diarrhea): 2.5%
- Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment.
- As with some penicillins and some other cephalosporins, transient hepatitis and cholestatic jaundice have been reported rarely.
- Rarely, reversible hyperactivity, nervousness, insomnia, confusion, hypertonia, dizziness, and somnolence have been reported.
- Other: eosinophilia, 2%; genital pruritus or vaginitis, less than 1% and, rarely, thrombocytopenia and reversible interstitial nephritis.

Abnormalities in laboratory results of uncertain etiology.
- Slight elevations in hepatic enzymes.
- Transient lymphocytosis, leukopenia, and, rarely, hemolytic anemia and reversible neutropenia.
- Rare reports of increased prothrombin time with or without clinical bleeding in patients receiving Ceclor and Coumadin concomitantly.
- Abnormal urinalysis; elevations in BUN or serum creatinine.
- Positive direct Coombs' test.
- False-positive tests for urinary glucose with Benedict's or Fehling's solution and Clinitest® tablets but not with Tes-Tape® (glucose enzymatic test strip, Lilly).

PA 8791 AMP [021490LRI]

Additional information available to the profession on request from Eli Lilly and Company, Indianapolis, Indiana 46285.

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The Recession of 1991

An Investment Strategy to Survive It

Neil D. Raisanen

The Recession of 1991

For more than a year, investors have waited anxiously for the recession. It has now arrived! A recession is defined as at least two consecutive calendar quarters of declining Gross National Product. Despite the retail industry's holiday bruises, this recession may be on the milder side. Picture it as a saucer: no steep decline, nothing too deep in the middle, and nothing dramatic on the recovery side. While some areas of the country may be in a deep recession, other areas may actually see significant growth. Some analysts have coined the term "rolling recession" because the effects of recession are so dramatically different from one area of the country to another and from one industry to another. Some of the factors that caused this particular recession are the same indicators to watch for during recovery.

Gulf crisis

The Persian Gulf war will increase uncertainty in the markets and the economy. Not knowing what lies ahead, consumers will likely prepare for the worst. The increase in oil prices after the Gulf crisis began hit consumers and businesses hard, increasing business's operating costs and taking more of individuals' income. Thus, both groups were left with less money to spend or save.

Depending on how the Gulf war is resolved, consumers and business operators may resume normal activity. Resolving the war without long-term damage to Mideast oil fields would remove the excuse for high oil prices since there is potential for overproduction of crude oil. Lowering of fuel costs would help businesses increase productivity and enable consumers to spend or save money.

Credit

Financial institutions' tightening of credit was another factor in the recession. Without money to spend, businesses slowed down or cut back. Some went out of business or went bankrupt. To ease this tight credit situation, the Federal Reserve Bank lowered its rates and may lower rates further. Although the Federal Reserve is worried about triggering inflation by easing rates too much, preventing a deeper recession is its first priority.

> "Some of the factors that caused this recession are the same indicators to watch for during recovery."

Construction

The construction industry, which accounts for 10 percent of the GNP, is clearly a major factor in the current recession. Especially hard-hit are the commercial and industrial office construction sectors, which were overbuilt during the 1980s, creating high vacancy rates in most major cities and unprofitable conditions for building owners. Correcting the problems caused by the construction industry's excess expansion will be a drag on the economy long after recovery from this recession. It may take five or more years before the marketplace absorbs the excess commercial office capacity. The situation is not so bleak in the residential construction sector. Single-family housing construction should rise a bit as banks make more mortgage money available. Still, there will be no building boom.

Corporate performance

The gloomy predictions of further economic slowdown, along with the actual slowdown, have a depressing psychological effect on business and the stock market. That makes for self-fulfilling prophecies. Corporate profits in general are down. The stock market still lacks confidence. But on the positive side, improved corporate performance will signal a recovery. Companies are now running lean. Productivity was already beginning to increase in the second quarter of 1990, and it was up again in the third quarter. Manufacturers do not have large inventories, so when orders increase, production increases will follow. Better export opportunities will also help.

As corporate performance stabilizes and improves, investors will find stocks more attractive, particularly those that have been undervalued recently. Price/earnings (P/E) ratios should expand as interest rates fall.

Market experts have divided opinions about the current market conditions, but some think the up side of the recession saucer is in view. Recovery should begin in mid-1991 or sooner. Because the market usually leads the economy by three to six months, investors should pay close attention to events, market signals, and opportunities. Overall, there are more positive than negative factors. Instead of waiting for the recession to start, investors can anticipate its end. Once evidence of the recession's end is at hand, the stock market will have moved up three to six months before the confirming data.

Bond Strategies for a Recession

A number of strategies can allow the investor to survive during a recession. One approach is to purchase individual bonds. The following suggestions should lessen the impact of a slowing economy on an investment portfolio.

Lengthen maturities

In most recessions, interest rates fall, particularly short-term rates. This is often the result of less demand for money (due to slower growth) and an increase in the supply of money (due to Federal Reserve attempts to bolster the economy). Stagflation in the early 1980s was an exception to interest rates falling in a slowdown, but this is unlikely to happen again because today's economy is not experiencing the same inflationary pressures of a decade ago.

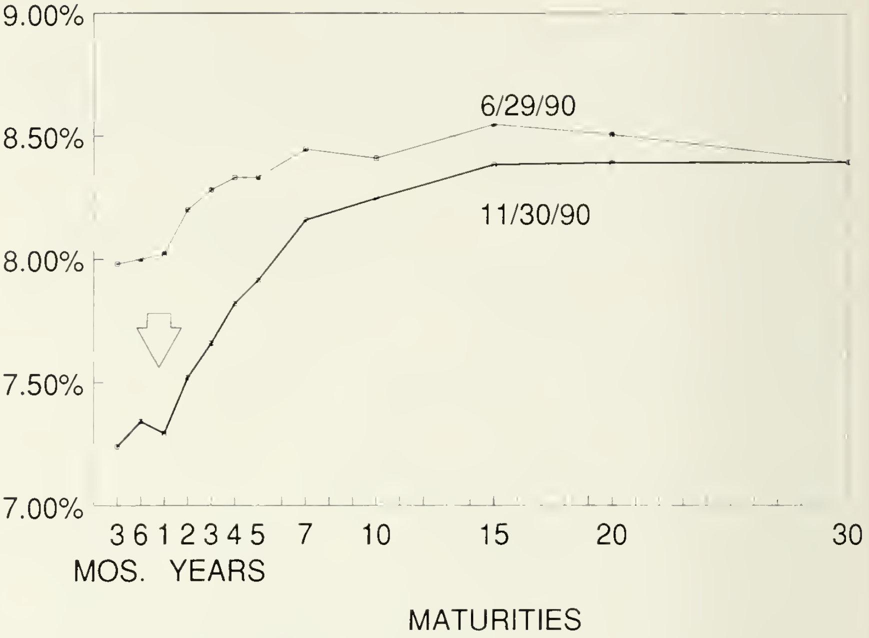

Figure 1—Treasury yield curve

Many investors may have already noticed lower yields on short-term investments. As shown in the Treasury yield curve chart (Figure 1), short-term yields have fallen about 0.75 percent since midyear. Investors who had purchased six-month Treasuries at midyear are likely to find yields 1 percent lower by the time they are able to reinvest.

In all likelihood, this trend of lower short-term interest rates will continue over the near term. To counteract a loss of income, it is recommended that investors who traditionally have purchased short-term bonds consider purchasing bonds with medium-term maturities. The extra yield earned by moving from a one-year to a five-year maturity is currently over 0.5 percent, with a 10-year maturity earning almost an additional 1 percent. In addition, investors will have reduced their exposure to falling rates and the resulting potential for lower income.

Focus on quality

As the economy slows, preservation of capital often becomes increasingly important. To lessen the possibility of a loss, it is recommended that investors focus on high-quality bonds. While U.S. Treasury bonds provide the greatest degree of safety, their purchase also results in yields that some investors find unattractive. Purchasing U.S. agency securities is one way to enhance yield while still relying on the U.S. government.

As opposed to a *direct* government guarantee, most agency securities have an *implied* government guarantee. Although they are slightly less secure, the extra yield that agency securities provide can offset this marginal shift in quality. Securities in this group include Federal National Mortgage Association, Student Loan Marketing Association, and Federal Home Loan Bank bonds.

High-quality corporate bonds also make sense for individuals looking for a pick-up in yield. In choosing a bond, investors should consider both its rating and whether its credit quality is cyclical.

Among the best indicators of a corporate bond's quality is the rating assigned to it by Standard & Poor's or Moody's rating services. The higher the bond is rated, the lower the risk of default. In assigning a rating, these services always assume that the economy could go through a moderate recession; thus, an individual company's rating reflects this possibility. By focusing on bonds rated "A" or higher, the investor owns bonds classified as investment grade.

As an added degree of caution, focusing on recession-resistant sectors makes sense. Low-risk sectors include electric and gas utilities, along with pharmaceutical and certain service-oriented companies. High-risk, cyclical sectors to avoid include consumer durables, chemicals, autos, and construction-oriented firms.

A Long-term Investment Strategy

Many stock market investors attempt to time the market, that is, sell high and buy low. While the traditional wisdom is accurate, it is very difficult to tell when the market is at a peak or valley. Another approach is to invest regularly, regardless of the market highs or lows. With a set amount to invest, more shares can be purchased when the market is low, emphasizing price appreciation in an up market. Investing the same amount when the market is high and, thus, ready for a downturn, limits the number of stocks that can be purchased and limits risk in a down market.

Given current stock market fluctuations, it may be of interest to show that "market timing" has a marginal effect on overall return. Seasoned stock investors know that success comes with buying and holding high-quality stocks over the long term. They have the perspective it takes to keep from selling out of fear. Less seasoned investors often make the mistake of "selling early," out of fear prices will go lower.

The stock market hits its yearly low only one day each year. The odds of buying at the low or the high are only one in 250 (0.4 percent). Systematic investing can neutralize much of this volatility. Figure 2 shows the best and worst days each year for the last 30 years. The chart assumes the two investors make a $1,000 investment each year for 30 years (using the S&P 500 Index). One investor makes a purchase at the high point of the market each year, while the second makes the investment at the low end each year. After 30 years and investing $30,000, the first investor has $242,910 while the second has $213,920—a difference of less than 1 percent per year in return on investment. This is an extreme example. Clearly, investing on other than the worst or best day would make little difference in the relative rate of return.

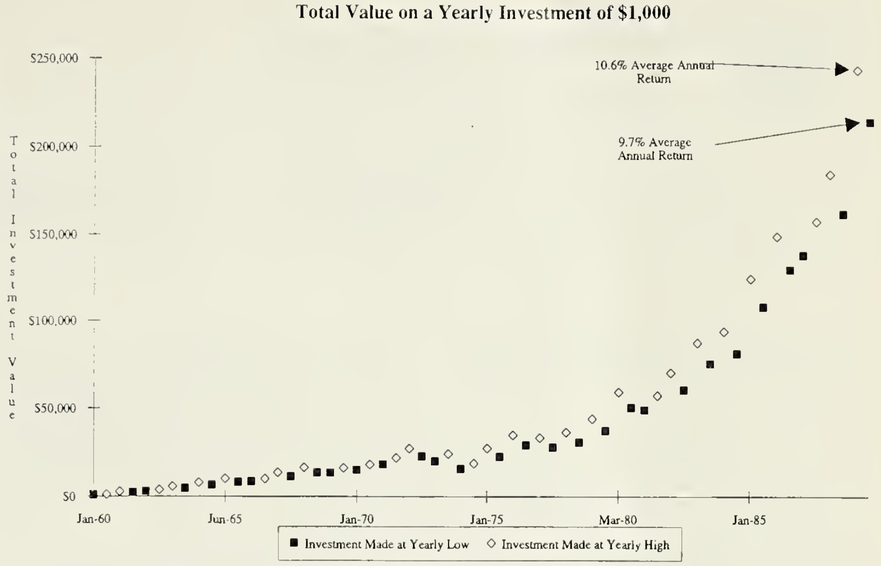

Figure 2—Total value on a yearly investment of $1,000

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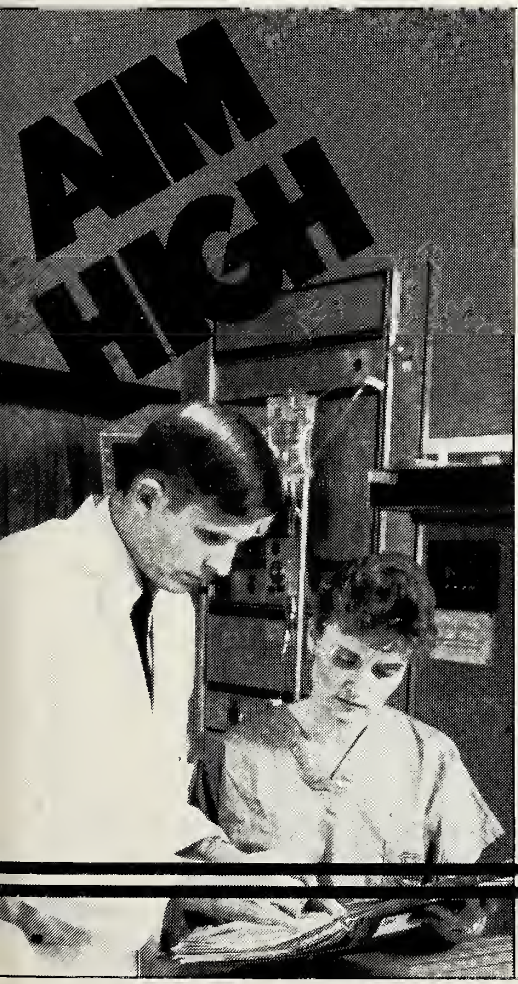

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1991 Continuing Education Programs

Phlebotomy – Vacutainer Technique

March 6, Wednesday,
1:00 p.m.-3:00 p.m. *$25*

This workshop is designed as a training or refresher course in the vacutainer technique of venipuncture. The venous anatomy, correct selection of vacutainer tubes, and precautions are emphasized – followed by detailed instruction for the proper venipuncture technique. (Further experience is needed beyond this workshop for those participants without any previous phlebotomy exposure to perform unsupervised phlebotomy.)

Basic Blood Cell Morphology

March 9, Saturday
9:00 a.m.-11:30 a.m. *$30*

This program on morphologic hematology is designed for technicians/technologists who are involved in the preparation and interpretation of peripheral blood smears. The workshop is intended to provide a comprehensive review of the morphology of normal and abnormal hemic cells.

Quality Assurance for Physicians Office Labs

March 13, Wednesday
3:00 p.m.-4:30 p.m. *$20*

This program will cover the key components of a quality assurance program as required by CLIA 88 for Physician's Office Laboratories.

Laboratory Safety in the 90's

March 23, Saturday
9:00 a.m.-11:30 a.m. *$30*

This presentation will provide your clinic with an overview of laboratory safety procedures and practices. Topics covered will include: How to prepare a safety manual, handling of hazardous substances, and establishing an employee safety training program.

Microbiology for the Small Laboratory

April 6, Saturday
9:00 a.m.-1:00 p.m. *$40*

This basic level workshop is tailored for the small laboratory involved in performing limited microbiology procedures. It will include processing of clinical specimens, preparing and gram staining smears, observational skills for describing colony types, identification of Group A beta hemolytic Streptococci in throat cultures, and a brief overview of urine and GC cultures.

Blood Banking for the Prenatal Patient/Oral Glucose Tolerance Testing and Gestational Diabetes Mellitus

April 10, Wednesday
1:00 p.m.-3:00 p.m. *$30*

This program will focus on the D/Du antigen, along with clinically significant antibodies that occur during pregnancy. The indications for Rh Immune Globulin will also be discussed.
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The Tax-exempt Clinic

Is It Right for Your Practice?

Konrad J. Friedemann and James B. Platt

For years, faculty practice groups and large regional medical centers, such as the Mayo Clinic in Rochester, Minnesota, and the Marshfield Clinic in Marshfield, Wisconsin, have enjoyed special benefits given to tax-exempt organizations. Historically, medical groups like these obtained their tax-exempt status on the strength of their research, teaching, and community service. Recently, an increasing number of more moderately sized clinics have decided to join the ranks of the Mayo Clinic and the Marshfield Clinic by seeking tax-exempt status. While the reasons are varied, most clinics point to one or more of the following advantages:

- A tax-exempt clinic does not pay federal or state income taxes. This allows the clinic to accumulate earnings without reduction for corporate taxes (at a flat 34 percent federal rate). Some clinics will use the retained earnings to smooth out temporary increases or decreases in production or receipts. Other groups like the option of using retained earnings to finance new equipment purchases or other capital improvements instead of relying on outside financing and debt accumulation.
- Tax-exempt groups are able to accept tax-deductible charitable contributions to promote teaching, research, delivery of health services, and other tax-exempt activities. This may enhance the clinic's reputation as a leader in health care delivery.
- Similarly, a tax-exempt clinic may have access to research grants and foundation gifts to help support its tax-exempt purposes.
- A tax-exempt clinic may also qualify for exemption from state and local property taxes and/or sales taxes, although this may be harder to achieve than income tax exemption.
- A tax-exempt clinic is able to sponsor a special type of retirement program, referred to as a "Section 403(b) annuity plan." This plan can be more advantageous than 401(k) plans.

> "While there are definite advantages, tax-exempt status may not be right for every group."

- Some clinics find that becoming tax exempt improves the standard of care and morale among its physician employees. Other clinics see the opportunity for community input and involvement as an advantage.
- A tax-exempt clinic is typically structured so that physicians are not required to purchase stock or a partnership interest in the organization. Many clinics view the absence of any buy-in and the avoidance of problems associated with buy-outs as significant advantages, particularly in physician recruitment.

While there are definite advantages, tax-exempt status may not be right for every group. There are a number of potential pitfalls, such as the following:

- Tax-exempt clinics must adhere to stringent Internal Revenue Service (IRS) strictures regarding the use of clinic funds. Generally speaking, a clinic may not allow its earnings to benefit any shareholder, member, officer, or other "insider." Rather, the earnings must be used in a manner that promotes the clinic's tax-exempt purposes. This could restrict a clinic's ability to pay large bonuses to its highest-producing physicians if the physicians' salaries would become considerably higher than those of similarly situated physicians in other tax-exempt groups. In addition, a tax-exempt clinic that merges, dissolves, or is purchased by another clinic or hospital could not distribute the gain from that sale to its physicians. Instead, the clinic would have to use the money to further its tax-exempt purposes or distribute the money to other tax-exempt organizations.
- Except in limited instances, a tax-exempt clinic may not sponsor a 401(k) plan.
- The process of obtaining IRS approval can be lengthy and expensive. A clinic desiring tax-exempt status must apply to the IRS and demonstrate that it is organized and operated in a manner that satisfies the special criteria for becoming tax exempt.
- A clinic may need to enhance its teaching, research, and community service activities to improve its chances of becoming tax exempt. In addition, the clinic may need to expand its provision of uncompensated care to demonstrate its charitable function. Because they divert time and resources away from the clinic's more profitable activities, these activities may offset any tax advantage.

Still, many groups may want to consider tax-exempt status. The flexibility that a clinic gains in being able to retain income without tax is an important advantage, although the financial and cultural impact on the practice needs to be carefully examined. For clinics that decide to seek tax-exempt status, careful work needs to be done both before and during the application process to ensure that the clinic is organized and operated in a manner that the IRS will look upon favorably.

Seeking Tax-exempt Status

Once a medical group decides to seek tax-exempt status, it must embark on the long, expensive, and somewhat perilous process of obtaining the necessary approvals. The IRS grants an organization tax-exempt status, but before application can be made, the organization must change the way it is organized and operated under state law. A clinic converting from taxable to tax-exempt status must first reorganize to operate for charitable purposes; specifically, it must promote health and, as appropriate, medical research and education. It must then seek IRS recognition of these changes. The following is an abbreviated description of the necessary steps in this process:

1. Amendment of governing documents: Assuming the clinic is structured as a professional corporation, it would first modify its articles of incorporation and bylaws to organize and operate the clinic as a charitable organization, the purpose of which is health promotion. Ideally, the clinic would also incorporate strong medical research and educational activities into its practice.

Depending on the state law where the clinic is situated, this first step can pose some structural problems. For example, under Minnesota law, a professional corporation that is also incorporated under Chapter 302A of Minnesota Statutes cannot be converted into a nonprofit corporation, nor can a professional corporation be merged into a nonprofit corporation. The physicians and their legal advisers will need to find other ways to achieve the desired result, but these alternatives may have their own drawbacks. For example, the clinic could continue to exist as a stock corporation, but it would need to comply strictly with the tax-exempt requirement that it provide no private benefit to shareholders. There could be no appreciation in the price of stock held by any shareholder. Alternatively, the clinic could sell its assets to a newly formed nonprofit corporation, but this would generally yield adverse tax consequences. Other options are available, but each must be carefully considered in light of the specific needs and demands of the clinic and its physicians.

2. Timing: Once the clinic is reorganized to pursue tax-exempt purposes, it should wait several years before actually seeking official IRS recognition of its tax exemption. This wait is desirable because conversion to tax-exempt status carries the risk that the tax laws may cause the immediate taxation of all the clinic's accounts. The clinic must work closely with its tax advisers to minimize the tax impact during the actual conversion.

3. Application to IRS: Application is then made to the IRS for recognition as a tax-exempt organization. Often, the clinic will first seek recognition as a Section 501(c)(4) organization and later seek conversion to Section 501(c)(3) status. (These references are to specific sections of the Internal Revenue Code.) Section 501(c)(4) organizations are commonly known as "social welfare organizations," whereas Section 501(c)(3) organizations include those commonly recognized as public charities. An advantage to Section 501(c)(3) status is that the organization may accept tax-deductible contributions, whereas contributions to Section 501(c)(4) organizations are not tax-deductible as charitable gifts.

4. Determination letter: After it receives the clinic's application, the Internal Revenue Service may seek additional information, and changes may need to be made in the clinic's organization or even its method of operation. If the application is approved, the IRS will issue a determination letter declaring the organization exempt from federal income taxation.

5. State and local approvals: After receiving the determination letter from the IRS, the clinic will then work with its lawyers and accountants to follow up with appropriate local and state filings and applications. These typically include application for state income tax exemption, registration with the Attorney General's Office as a charitable organization, applications for sales and use tax exemption, and application for local solicitation permits, if necessary, for permission to solicit charitable contributions.

6. Annual filings: Once tax exemption is established, certain annual reports and filings are necessary to maintain tax exemption and its related benefits. For example, a Form 990, which is the information return for tax-exempt organizations, must be filed with the IRS and the state of Minnesota each year. The Minnesota Attorney General requires an annual filing if the organization has raised or expended more than $25,000.

7. Operation for charitable purposes: Tax-exempt status can be lost if the clinic is not operated for the charitable, educational, or scientific purposes that were the basis for its tax exemption. Clinic earnings must be used appropriately and may not be diverted to private interests. Of particular concern for a tax-exempt medical group is that it may not be operated to provide undue private benefit to any of its physicians. This will necessitate adherence to a strict process of establishing physician salaries at levels that are found reasonable as compared with outside standards. The creation of such a process is an essential part of obtaining tax exemption, and the clinic must continue to live by the process to maintain tax-exempt status. **MM**

Konrad Friedemann is an attorney with the Minneapolis law firm of Fredrikson & Byron, P.A., and chairman of the firm's Health Law Practice Group.

James B. Platt is a shareholder at Fredrikson & Byron and a member of the Health Law Practice Group.

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Evaluating Technology's True Value

Richard B. Tompkins, M.D.

Government, private payers, the public, and physicians are embracing the concept of universal access to quality health care and are questioning whether it can be achieved given the current escalation of health care costs. Most payers view technology as a major cause of these rising costs.

An estimated 30 to 40 percent of health care cost increases are a result of new technological advances and increased use of old technology. Sen. Dave Durenberger has stated that he once heard a former FDA commissioner say the way to control health care costs in the United States is to stop funding medical technology research. This would certainly result in a significant reduction in the development of new technology, but I doubt that very many people would endorse it.

A consensus that the expanding use of technology must be controlled is building in Minnesota. The Health Care Access Commission and the Metropolitan Council are examples of two state groups that advocate such control. One of the Health Care Access Commission's primary recommendations is for Minnesota to develop a research program to study health care, including the use of medical technology.

A recent Metropolitan Council report states that Minnesota's health policies "have left diffusion of new medical technologies largely to the forces of the competitive marketplace." As a result, it concludes, medical technology is introduced in the Twin Cities marketplace before efficacy and need have been determined, which not only increases costs, but also may threaten the quality of patient care.

"Patients worry more about a technology's ability than its costs."

Increasingly, Twin Cities clinics and hospitals face a dilemma, reports the council. While it is necessary for them to acquire technology needed by patients and the community, clinics and hospitals are often compelled to purchase technology based on market factors that have little or nothing to do with patient needs. Once technologies are in place, says the report, the bills must be paid, and unnecessary tests and treatments sometimes follow.

We need a balance. Without change, we'll hit a crisis point within a few years, according to the Met Council. Because our elderly population is increasing, the proportion of those needing high-tech care is increasing. Unless something is done, health care costs will continue to demand more and more of our state's resources, limiting funds for other important needs such as education and housing.

The Met Council recommends that a forum be developed to provide public accountability for "appropriate and timely diffusion of new high-cost health care technology." Council members do not wish to resurrect the Certificate of Need, they say, but they do wish to establish some form of control that would involve voluntary participation by health care providers, manufacturers, payers, consumers, and others, with incentives to carry out the recommendations.

Patients worry more about a technology's ability than its costs. Payers emphasize cost and question a technology's usefulness. Few are willing to invest the effort and resources required to determine the appropriate role of new and old technologies by focusing on clinical, economic, and social outcomes.

New technology is developed to reduce uncertainty, a condition patients and physicians have difficulty tolerating. Patients and physicians eagerly embrace technology that promises more accurate diagnosis, such as MRI or CT scanning. Technology that decreases morbidity, such as arthroscopy or laparoscopic cholecystectomy, is also rapidly accepted into mainstream medicine.

It is not reasonable to stop technological research. What we need are mechanisms to evaluate technology's true value. A great deal of thought, effort, and resources go into the transformation of an idea into a product, and initial feasibility studies are almost always carefully carried out. However, once a product is ready for general use, assessment of its clinical appropriateness is rarely done. We need to develop the ability to evaluate new technology and to compare new and old technology in terms of medical, social, and economic value. This will be expensive, but the investment will pay huge dividends in the long run. Only through these efforts can we respond to the needs of both payers and consumers while assuring that development and appropriate diffusion of technology will continue. MM

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Action: Yohimbine blocks presynaptic alpha-2 adrenergic receptors. Its action on peripheral blood vessels resembles that of reserpine, though it is weaker and of short duration. Yohimbine's peripheral autonomic nervous system effect is to increase parasympathetic (cholinergic) and decrease sympathetic (adrenergic) activity. It is to be noted that in male sexual performance, erection is linked to cholinergic activity and to alpha-2 adrenergic blockade which may theoretically result in increased penile inflow, decreased penile outflow or both.

Yohimbine exerts a stimulating action on the mood and may increase anxiety. Such actions have not been adequately studied or related to dosage although they appear to require high doses of the drug. Yohimbine has a mild anti-diuretic action, probably via stimulation of hypothalmic centers and release of posterior pituitary hormone.

Reportedly, Yohimbine exerts no significant influence on cardiac stimulation and other effects mediated by B-adrenergic receptors, its effect on blood pressure, if any, would be to lower it; however no adequate studies are at hand to quantitate this effect in terms of Yohimbine dosage.

Indications: Yocon® is indicated as a sympathicolytic and mydriatric. It may have activity as an aphrodisiac.

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Warning: Generally, this drug is not proposed for use in females and certainly must not be used during pregnancy. Neither is this drug proposed for use in pediatric, geriatric or cardio-renal patients with gastric or duodenal ulcer history. Nor should it be used in conjunction with mood-modifying drugs such as antidepressants, or in psychiatric patients in general.

Adverse Reactions: Yohimbine readily penetrates the (CNS) and produces a complex pattern of responses in lower doses than required to produce peripheral a-adrenergic blockade. These include, anti-diuresis, a general picture of central excitation including elevation of blood pressure and heart rate, increased motor activity, irritability and tremor. Sweating, nausea and vomiting are common after parenteral administration of the drug.[1,2] Also dizziness, headache, skin flushing reported when used orally.[1,3]

Dosage and Administration: Experimental dosage reported in treatment of erectile impotence.[1,3,4] 1 tablet (5.4 mg) 3 times a day, to adult males taken orally. Occasional side effects reported with this dosage are nausea, dizziness or nervousness. In the event of side effects dosage to be reduced to ½ tablet 3 times a day, followed by gradual increases to 1 tablet 3 times a day. Reported therapy not more than 10 weeks.[3]

How Supplied: Oral tablets of Yocon® 1/12 gr. 5.4 mg in bottles of 100's NDC 53159-001-01 and 1000's NDC 53159-001-10.

References:

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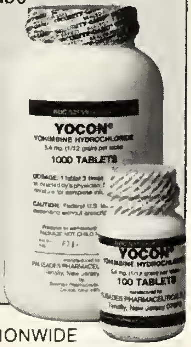

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People and Places Making Medical News

People

Health and Human Services Commissioners

Gov. Arne Carlson appointed John McCally of North Oaks commissioner of health February 1. McCally, a former administrator of the Mayo Graduate School of Medicine, succeeds Mary Madonna Ashton in leading the 964-employee department with an annual budget of $131.6 million. Carlson said he chose McCally because he wanted someone with managerial experience, who understands budgets, and will concentrate on preventive health care. Most recently, McCally was chief executive of Detroit Medical Center in Michigan.

Carlson appointed Natalie Steffen of Anoka as commissioner of human services January 23. Steffen, who was most recently Anoka County commissioner, will administer and supervise public assistance, child welfare, and services to handicapped people. She will also be in charge of regional treatment centers for the chemically dependent, mentally retarded, and mentally ill, and state nursing homes for geriatric patients. She succeeds Ann Wynia in leading the 7,000-employee department.

Ashton's New Job

Former State Health Commissioner Sister Mary Madonna Ashton was appointed president and chief executive officer of Carondelet LifeCare Corporation in January. Ashton was president and CEO of St. Mary's Hospital and Rehabilitation Center in Minneapolis, a Carondelet-sponsored entity, before serving as health commissioner under former Gov. Rudy Perpich.

Group Health Director

James Hart, M.D., joined Group Health, Inc., as the new associate medical director for Quality and Utilization Management in January. A board-certified internist, Hart was chief of professional services at the St. Croix Valley Clinic in Stillwater, a Group Health affiliate, prior to joining Group Health, Inc. He currently serves on the Minnesota Health Care Access Commission and the MMA's Medical Practice & Planning Committee.

Weber Names Rural Health Aide

U.S. Rep. Vin Weber announced in January the appointment of Jane Williams as assistant for health care issues. Williams joins Weber's staff after nine years in the same position with Iowa Rep. Tom Tauke, where she handled all Medicare, Medicaid, and Public Health Service issues associated with Tauke's position on the Health and Environment Subcommittee.

M-MSMC Officer Resigns

Health One Corporation announced January 24 that Jean Keffeler resigned as senior executive officer of Metropolitan-Mount Sinai Medical Center effective February 15 to pursue opportunities in business consulting.

Succeeding Keffeler is David Jones, who has served as administrator and chief operating officer of the medical center.

NEJM's New Editor

Jerome P. Kassirer, M.D., a nephrologist and internal medicine specialist, has been selected as the new editor-in-chief of *The New England Journal of Medicine* effective July 1991. Kassirer is the Sara Murray Jordan professor of medicine at Tufts University School of Medicine and an associate physician-in-chief at the New England Medical Center.

Kassirer will succeed current Editor-in-Chief Arnold S. Relman, M.D., who announced his retirement last July after 14 years at the journal's helm.

Kassirer has received national recognition for his work on diagnostic reasoning and therapeutic decision-making and is considered a national expert in many aspects of clinical medicine, especially kidney disorders.

Places

New Center for Rural Health

The Minnesota Rural Health Coalition has agreed to establish the Minnesota Center for Rural Health to preserve access to quality health care in rural Minnesota.

The center's activities and programs will initially focus on 1) ensuring access to health care for rural citizens, with an emphasis on underserved and vulnerable populations, 2) increasing the supply of physicians, nurses, and other needed health care personnel in rural Minnesota, 3) assisting rural communities in defining specific health needs and identifying strategies to fulfill those needs, and 4) identifying state rural health needs and issues and assisting in rural health policy development.

Initially, the center will be staffed by the Northern Lakes Health Care Consortium and will operate under an affiliation agreement with the University of Minnesota–Duluth School of Medicine.

The Minnesota Rural Health Coalition is a broad-based association of health care providers, educators, consumers, and government officials who have worked since 1989 to identify key rural health issues and explore opportunities for cooperative problem solving. The coalition steering committee includes the Minnesota Medical Association, the Minnesota Hospital Association, the Minnesota Department of Health, the Minnesota Nurses Association, the University of Minnesota Hospital and Clinics, the University of Minnesota–Duluth School of Medicine, the Minnesota Academy of Family Physicians, the Mayo Clinic, the Minnesota Public Health Association, and the Northern Lakes Health Care Consortium.

Urban Indian Health Clinic Closes

The St. Paul Urban Indian Health Clinic closed after its lease expired December 31 and was evicted from its office space at 1021 Marion Street.

Last summer, the city of St. Paul halted payments to the clinic after discovering the clinic was $111,000 in debt. The city had also received complaints from the clinic's creditors and from clients, who said the clinic was never open when they visited. The State Auditor's office has been hired to audit the Urban Indian Health Board's books.

Socioeconomics

Pilot Health Care Program

Gov. Arne Carlson said he wants to implement a pilot program for affordable health care for the uninsured instead of a state-wide health care program, which he said Minnesota can't afford during the next two years. The proposed pilot program may involve choosing a small area of the state and trying to provide affordable health coverage, said Carlson's lobbyist Jill Sammon.

Jim Koppel, executive director of the Health Care Access Commission, said there's no merit in a pilot program because it would not show the benefits and savings that would result from a state-wide program.

PHP and Share Form 'Medica'

PHP and Share, two major Minnesota health care plans, will combine their operations in a new nonprofit managed health care organization. The new parent organization, called Medica, will offer a wider range of benefit plans than PHP and Share currently market separately. The combination was finalized February 7 following earlier approvals by the boards of both plans.

State Nursing Homes Under Financial Strain

Minnesota nursing homes are under financial strain, but residents are in little or no danger, according to a legislative auditor's report released January 24.

However, a trade group study released February 1 contends that Minnesota nursing homes face "catastrophic consequences" unless their finances improve. The Healthcare Financial Management Association study said some nursing homes are unable to pay for debts and needed renovation. In addition, nursing home operators have insisted that legislators' cost-control measures have led to unsafe conditions for residents.

Legislative Auditor James Nobles denies that a crisis exists. Nonetheless, the legislative report found that more than 40 percent of Minnesota nursing homes have been under serious financial stress in recent years, particularly in rural areas, where nursing homes are often part of small, failing hospitals.

Deputy Auditor Marilyn Jackson-Beeck said that although resident care has been unaffected, cost-control measures have restricted needed physical improvements to many nursing homes.

Medical Technology Forum

The Metropolitan Health Planning Board recommended formation of a Twin Cities-area forum to debate the costs and benefits of expensive new medical technologies (see President's Letter, page 41). In its report to the Metropolitan Council released January 8, the board said technology is a culprit in health care cost inflation. "Sophisticated technologies have been applied to medical conditions in which simpler and less expensive care would accomplish the same result," the report said.

The board suggested that a forum could include meetings for consumers, doctors, and others to discuss how quickly and widely new medical technologies should be used. The forum's decisions would only be advisory, said Carole Peterson, a health planner on the board.

Rising Health Costs

Health care costs are rising faster than personal income, corporate profits, and government revenues, according to Department of Health and Human Services' data released January 9. Health Department Secretary Louis Sullivan said the trends pose "a severe challenge to policymakers as we face the growing demand for health care services and the need to contain health care costs."

Individual health spending as a portion of adjusted personal income went from 3.9 percent in 1980 to 5.1 percent in 1989. With the start of Medicaid and Medicare, federal health spending jumped from 3.5 percent of federal revenues in 1965 to 6.1 percent in 1967. By 1989, federal spending was at 15.1 percent.

The burden of health care costs has shifted over the past 25 years from individuals to government and business. Households paid about 61 percent of national health care costs in 1965, but only 37 percent by 1989. During the same period, business's share jumped from 17 percent to 30 percent and government's share from 21 percent to 31 percent.

Uninsured Hospital Patients

The death rate for hospital patients without medical insurance is as high as three times the rate for similar insured patients, according to a report published in the January 16 *Journal of the American Medical Association*. The study's results add to concerns that patients' ability to pay affects their treatment.

Other factors could contribute to the variability in death rates, said Jack Hadley, the study's lead researcher. For example, the insured are probably more likely to be discharged to a nursing home or hospice to die and more likely to have received the care they needed before arriving at the hospital.

But even after statistically accounting for health differences of patients upon arrival at the hospital, death rates of uninsured patients remained 1.2 to 3.2 times higher than death rates of insured patients. Results also suggest that doctors are less likely to order expensive procedures for uninsured patients.

Uninsured patients are putting a strain on large public hospitals, according to a National Association of Public Hospitals report released January 29. More than half of outpatient visits and one-third of inpatient visits at 100 public hospitals were for uninsured patients, based on 1988 figures.

"Unless new nationwide programs are enacted to fund care to the uninsured ... there will be a substantial curtailment of safety-net services in many urban areas," said Larry Gage, association president. The association asks that Congress establish a $1 billion to $2 billion indigent care trust fund, provide new sources of capital for hospitals, and prevent private hospitals from "dumping" uninsured patients on public hospitals.

Law & Policy

HIV-infected Health Care Workers

HIV-infected doctors and dentists should inform patients of their disease or give up surgery, recommended the American Medical Association and the American Dental Association January 17. The AMA also said that doctors who perform surgery or other invasive procedures and are at risk of acquiring AIDS should determine their HIV status. Those who test positive, said the AMA, are ethically obligated to stop any professional activity that could transmit the infection to the patient or to disclose their infection and proceed only with informed consent.

The Centers for Disease Control reports that three people may have been infected with the HIV virus by Dr. David Acer, a Florida dentist who died of AIDS in September. Attorneys for Kimberly Bergalis, one of Acer's patients who contracted AIDS, announced a $1 million settlement of her claim against Acer.

In related news, AIDS deaths in the United States reached 100,777 by the end of December. Nearly one-third of those deaths occurred last year, said the CDC, which estimates that as many as 215,000 more Americans will die of AIDS in the next three years.

Right-to-Die Case

Missouri state attorneys asked the Missouri Court of Appeals February 4 to issue a permanent order preventing Pete Busalacchi from moving his severely brain-damaged daughter from Missouri. Busalacchi wants to move her to Minnesota because its right-to-die laws are more lenient than Missouri's, which are some of the strictest in the nation.

Christine Busalacchi, who was injured in a car accident in 1987, is kept alive with a feeding tube inserted in her stomach. Her father wants to move her to Minneapolis, where experts can examine her and determine if her feeding tube should be removed.

"If you let her go out of state and they terminate her life, there's nothing the state of Missouri can do," said Tim Kelly, an attorney for the Missouri Department of Health. The state has affidavits from doctors claiming Christine Busalacchi is not in a persistent vegetative state and should continue rehabilitation. Other doctors claim that she has an "infinitesimal" chance, at best, of recovering.

Refusing Medical Treatment

The Massachusetts' Supreme Judicial Court ruled January 15 that while medical treatment can be ordered for children with life-threatening illnesses whose parents object because of religious beliefs, adults have the right to refuse such treatment.

In the first of two cases involving Jehovah's Witnesses, a judge issued an order authorizing a blood transfusion in July 1989 for 8-year-old Elisha McCauley, who, according to the judge, faced certain death from leukemia unless she received chemotherapy and blood transfusions. "We conclude that Elisha's best interests, and the interests of the state, outweigh the McCauleys' parental and religious rights," said the unanimous court.

The second case involved Yolanda Munoz, 38, who refused to agree to a blood transfusion if her bleeding ulcer should hemorrhage. The court ruled unanimously that competent adults can rightfully refuse medical treatment.

Innovations

Coronary Excimer Laser Therapy

For the first time in the Twin Cities, cardiologists used excimer laser therapy to remove blockages in coronary arteries. Minneapolis Heart Institute cardiologists performed three laser therapy procedures at Abbott Northwestern Hospital February 7. Each procedure was followed up with balloon angioplasty. The procedures went well and all three patients had excellent results, the institute reports.

The excimer laser is attached to a catheter, which is inserted into the blood vessel in the groin using a guidewire. The laser-tipped catheter is then threaded through the artery to the site of the blockage. The excimer laser vaporizes plaque deposits, leaving no residual debris.

"We're very encouraged that the excimer may provide more benefit to 10 to 20 percent of patients where angioplasty alone may not be as successful," said MHI cardiologist James Madison, M.D., co-principal investigator. The more commonly performed balloon angioplasty opens blockages by stretching blood vessels.

Patients with long lesions or ostial lesions may benefit most from excimer laser therapy. The excimer, or "cool" laser, transmits energy in pulses that last a billionth of a second, too fast for the tissue to feel any heat.

"It's still too early to tell if restenosis (reclosure of the artery), a problem in 30 percent of balloon angioplasty cases, is less likely to occur with excimer laser therapy," said co-principal investigator Michael R. Mooney, M.D.

Abbott Northwestern Hospital/Minneapolis Heart Institute is one of 25 centers nationwide to test this device in coronary arteries. MHI cardiologists Drs. Madison, Mooney, and Robert A. Van Tassel are principal investigators for the U.S. Food and Drug Administration-approved clinical trial.

AIDS Vaccine

The first human-tested AIDS vaccine is safe, but researchers have not proven its effectiveness, according to a report in the January 15 *Annals of Internal Medicine*. Researchers injected the vaccine, called VaxSyn, into 36 healthy adult volunteers in 1988, and all showed some immune response. The vaccine caused only a few minor side effects, including slight fever after receiving the vaccine, headaches, sluggishness, and pain at the injection site.

The researchers said they were surprised to find that the vaccine caused a double immune response. The volunteers developed antibodies to the AIDS virus and produced immune system "killer T cells" specific to the AIDS virus. Researchers will give doses up to eight times stronger to 30 additional volunteers in the second stage of testing.

The study was part of the federal AIDS Vaccine Clinical Trials Network, run by the National Institute of Allergies and Infectious Diseases. The network is testing six vaccines in humans for safety and effectiveness.

Medical Research

Nursing Home Care

Half of all neuroleptic drug use in nursing homes between 1976 and 1985 would be considered ineligible under recently implemented federal guidelines, according to a University of Minnesota study published in the January 23 *Journal of the American Medical Association*. The new guidelines were established to prevent misuse of the drugs, which are used to calm mentally ill patients but cause confusion and other negative side effects. The researchers' goal was to determine the impact of the new laws, which went into effect October 1.

Judith Garrard, a university psychologist and the study's principal investigator, wrote that out of 5,752 patients tracked in the study, 996 (17 percent) were given anti-psychotic drugs when they entered the nursing homes. In 49 percent of those cases, the person's condition did not justify the drug's use under the new regulations.

About one-third of the patients on the drugs were taken off during the first year, but one-third of those not originally taking the drugs were put on them. All but one of 60 nursing homes in the study had at least one individual who was given ineligible neuroleptic drug treatment.

A related study reported in the same issue examined the patterns of and risk factors for mechanical restraint use in nursing homes. It found use of mechanical restraints was common but intermittent for reasons of safety and behavior in disoriented, active residents.

The authors studied restraint use in 12 skilled nursing facilities in the New Haven, Connecticut, area. They found that 66 percent of all residents were restrained at some point during the study. "Our results verify the impression that restraint use involves a choice between safety and independence. Unfortunately, the decision is made with an almost complete lack of data concerning the effectiveness of restraints on reducing injury or improving behavior," they write.

Blacks Get Fewer Kidney Transplants

While black Americans are four times more likely to develop kidney failure than whites, they receive fewer kidney transplants, according to a report by the American Society of Transplant Physicians published in the January 31 *New England Journal of Medicine*. Blacks are also less likely to donate kidneys and do not recover as well after transplants.

The disparity is a result of social, biological, and economic factors, including a lack of black organ donors, said the report. In addition, blacks are less likely than whites to have private health insurance, which might contribute to the disparity.

About 24 percent of whites who had recently developed kidney failure received a kidney transplant in 1987, compared with 15 percent of blacks. Blacks are also less likely to receive pancreas and liver transplants.

Bertram L. Kasiske, M.D., an associate professor of medicine at the University of Minnesota, was the report's lead author.

Faulty Blood Pressure Readings

Inconsistencies in teaching procedures for measuring blood pressure and in taking blood pressure readings were found in a study by the Minnesota Blood Pressure Coalition. As a result of inconsistencies, many people may receive inaccurate high readings.

The coalition conducted a two-part survey to find out how well nursing programs in Minnesota teach American Heart Association standards and how well medical clinics follow those standards. The survey found that nurses trained in Minnesota and in other states were taught improper procedures.

According to the report, false readings are primarily a result of skipping time-consuming procedures, such as having patients sit quietly for five minutes before taking the reading and taking an average of two readings.

State Cancer Rates

Of all Minnesotans born this year, 47 percent will eventually develop cancer if current rates continue, according to a Minnesota Department of Health study released January 15. The risk of most cancers increases with age, and Minnesotans have the second-longest life expectancy in the nation. Minnesotans, therefore, are more likely to live into the cancer-prone years than people from other states, says the report. MM

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A Calendar of Continuing Medical Education Courses

Provided through the MMA Medical Education Subcommittee on CME Resources. For assistance with scheduling meetings or for information on future medical meetings and CME courses at the state and national level, please contact the MMA office: 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414; 612/378-1875. Information for each entry is arranged by date; name of program; primary sponsor; location; contact person.

MARCH 1991

Mar. 1-3 **Neurology in Clinical Practice** Mayo Clinic and Mayo Foundation; Telemark Lodge, Cable, WI. CONTACT: Postgraduate Courses, 200 1st Street SW, Rochester, MN 55905; 507/284-2509 or 800/323-2688.

Mar. 4-8 **Current Concepts in Gastroenterology** Mayo Clinic/Mayo Foundation; Tradewinds, St. Peters, FL. CONTACT: Postgraduate Courses, 200 1st Street SW, Rochester, MN 55905; 507/284-2509.

Mar. 7-8 **Critical Care Medicine** St. Paul-Ramsey Medical Center; Holiday Inn East, St. Paul, MN. CONTACT: Bonnie Young, 640 Jackson Street, St. Paul, MN 55101; 612/221-3992.

Mar. 8 **Neonatal Resuscitation Program** Minneapolis Children's Medical Center; First Floor Auditorium, Massie Moos Education Building, Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Joyce Rudi, MCMC, 2525 Chicago Avenue South, Minneapolis, MN 55404; 612/863-6923.

Mar. 10-15 **Cardiology for the Clinician: Practical Guidelines for Merging Advances in Cardiology with Bedside Medicine** University of Illinois, Chicago College of Medicine, Department of Medicine, Section of Cardiology; Snowmass, CO. CONTACT: Sue Talbert, UIC Conferences/Institutes (M/C 607), Box 6998, Chicago, IL 60680; 312/996-4631.

Mar. 12-13 **Pediatric Advanced Life Support (PALS)** St. Paul-Ramsey Medical Center; Capitol Professional Building, St. Paul, MN. CONTACT: Bonnie Young, 640 Jackson Street, St. Paul, MN 55101; 612/221-3992.

Mar. 14-15 **Family Practice Today** St. Paul-Ramsey Medical Center; Holiday Inn East, St. Paul, MN. CONTACT: Bonnie Young, 640 Jackson Street, St. Paul, MN 55101; 612/221-3992.

Mar. 15 **Minnesota Urological Society** Minnesota Urological Society; Hotel Sofitel, Bloomington, MN. CONTACT: Linda Reynolds, Executive Secretary, 6750 France Avenue South, Suite 149, Edina, MN 55435; 612/925-0533.

Mar. 15 **Thrombolytic Therapy in Acute MI** Abbott Northwestern Hospital; Minneapolis Heart Institute, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

Mar. 15-16 **CO_2 Laser: An Introductory Course in Office and Outpatient Procedures** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

Mar. 16 **Ob/Gyn Half-Day Seminar** Group Health Continuing Research Education Fund; Minneapolis Metrodome Hilton, Minneapolis, MN. CONTACT: Debbie Bladine, Physician Services, Group Health, 2829 University Avenue, Minneapolis, MN 55414-3292; 612/623-8479.

Mar. 21 **Advanced Laparoscopic Seminar: Inguinal Herniorrhaphy, Appendectomy** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

Mar. 21 **Current Issues at Group Health, Inc.** Group Health Continuing Research Education Fund; Minneapolis Metrodome Hilton, Minneapolis, MN. CONTACT: Debbie Bladine, Physician Services, Group Health, 2829 University Avenue, Minneapolis, MN 55414-3292; 612/623-8479.

Mar. 22 **Advanced Laparoscopic Seminar: Inguinal Herniorrhaphy, Appendectomy** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

Mar. 23 **Advanced Laparoscopic Seminar: Inguinal Herniorrhaphy, Appendectomy** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

Mar. 23 **12th Annual Occupational Medicine Update** St. Paul-Ramsey Medical Center; Holiday Inn East, St. Paul, MN. CONTACT: Bonnie Young, 640 Jackson Street, St. Paul, MN 55101; 612/221-3992.

Mar. 24-27 **Strategies in the Management of Complex Congenital Heart Disease** Mayo Foundation and Phoenix Children's Hospital; Camelback Inn, Scottsdale, AZ. CONTACT: Postgraduate Courses, 200 1st Street SW, Rochester, MN 55905; 507/284-2509 or 800/323-2688.

APRIL 1991

Apr. 4 **Research Update** Group Health Continuing Research Education Fund; Minneapolis Metrodome Hilton,

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Minneapolis, MN. CONTACT: Debbie Bladine, Physician Services, Group Health, 2829 University Avenue, Minneapolis, MN 55414-3292; 612/623-8479.

Apr. 4-5 **Ob/Gyn Update** St. Paul-Ramsey Medical Center; Holiday Inn East, St. Paul, MN. CONTACT: Bonnie Young, 640 Jackson Street, St. Paul, MN 55101; 612/221-3992.

Apr. 4-6 **Total Joint Arthroplasty** Mayo Clinic and Mayo Foundation; Scottsdale, AZ. CONTACT: Rita Kunz or Jan Fleck, Mayo Clinic, 200 1st Street SW, Rochester, MN 55905; 507/284-2509.

Apr. 5 **Annual ENT Update for Primary Care Physicians** St. Paul-Ramsey Medical Center; St. Joseph's Hospital, St. Paul, MN. CONTACT: Bonnie Young, 640 Jackson Street, St. Paul, MN 55101; 612/221-3992.

Apr. 5 **Identification and Management of HIV-Infected Persons** Office of CME, University of Minnesota; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, MN 55455; 612/626-7600.

Apr. 5 **Seventh Annual Duluth Heart Conference** The Duluth Clinic; Fitger's Spirit of the North Theatre, Duluth, MN. CONTACT: Barbara Jablonski, CME Manager, 400 East Superior Street, Duluth, MN 55805; 218/725-3816.

Apr. 6 **Pediatric Half-Day Seminar** Group Health Continuing Research Education Fund; Minneapolis Metrodome Hilton, Minneapolis, MN. CONTACT: Debbie Bladine, Physician Services, Group Health, 2829 University Avenue, Minneapolis, MN 55414-3292; 612/623-8479.

Apr. 8-9 **Annual Ophthalmology Course** Office of CME, University of Minnesota; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, MN 55455; 612/626-7600.

Apr. 11 **Ethics and the Patient with Cancer** American Cancer Society, Rochester Community College; Phillips Hall, Siebens Education Building, Mayo Medical Center, Rochester, MN. CONTACT: Faith Zimmerman, RN, Rochester Community College, 851 30th Avenue SE, Rochester, MN 55904; 507/285-7571.

Apr. 11-12 **Allergy & Clinical Immunology** Office of CME, University of Minnesota; Mayo Memorial Auditorium, Minneapolis, MN. CONTACT: Registrar, Office of CME, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, MN 55455; 612/626-7600.

Apr. 18 **Advanced Laparoscopic Seminar: Inguinal Herniorrhaphy, Appendectomy** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

Apr. 18 **Ophthalmological Update** Group Health Continuing Research Education Fund; Minneapolis Metrodome Hilton, Minneapolis, MN. CONTACT: Debbie Bladine, Physician Services, Group Health, 2829 University Avenue, Minneapolis, MN 55414-3292; 612/623-8479.

Apr. 18-19 **Bone Marrow Processing Laboratory** Office of CME, University of Minnesota; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, MN 55455; 612/626-7600.

Apr. 19 **Advanced Laparoscopic Seminar: Inguinal Herniorrhaphy, Appendectomy** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

Apr. 19-20 **Sexual Attitude Reassessment Seminars (SAR)** University of Minnesota; Program in Human Sexuality, Minneapolis, MN. CONTACT: SAR Coordinator, Program in Human Sexuality, 2630 University Avenue SE, Minneapolis, MN 55414; 612/627-4360.

Apr. 22-26 **Family Practice Review** Office of CME, University of Minnesota; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, MN 55455; 612/626-7600.

Apr. 26-27 **14th Annual Update in Clinical Cardiology** Abbott Northwestern Hospital; Radisson Plaza Hotel, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

MAY 1991

May 1-3 **Minnesota Academy of Family Physicians Annual Spring Refresher** Minnesota Academy of Family Physicians; Hyatt Regency Hotel, Minneapolis, MN. CONTACT: MAFP, University Office Plaza, 2221 University Avenue SE, Suite 426, Minneapolis, MN 55414; 612/331-2506 or 800/999-8198.

May 10-11 **Ophthalmic Reviews** Mayo Clinic and Mayo Foundation; Leighton Auditorium, Rochester, MN. CONTACT: Rita Kunz or Jan Fleck, Mayo Clinic, 200 1st Street SW, Rochester, MN 55905; 507/284-2509 or 800/323-2688.

May 14 **Women's Cancer Center Symposium** Office of CME, University of Minnesota; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, MN 55455; 612/626-7600.

May 15-17 **Concepts in Radiation Therapy** Office of CME, University of Minnesota; Mayo Memorial Auditorium, Minneapolis, MN. CONTACT: Registrar, Office of CME, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, MN 55455; 612/626-7600.

May 16 **Advanced Laparoscopic Seminar: Inguinal Herniorrhaphy, Appendectomy** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN.

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CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

May 16 **Hospice** Group Health Continuing Research Education Fund; Minneapolis Metrodome Hilton, Minneapolis, MN. CONTACT: Debbie Bladine, Physician Services, Group Health, 2829 University Avenue, Minneapolis, MN 55414-3292; 612/623-8479.

May 17 **Advanced Laparoscopic Seminar: Inguinal Herniorrhaphy, Appendectomy** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

May 18 **Advanced Laparoscopic Seminar: Inguinal Herniorrhaphy, Appendectomy** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

May 19-21 **21st Annual Meeting** Great Plains Organization for Perinatal Health Care; Northland Inn, Minneapolis, MN. CONTACT: Mary McClung, 1100 South Euclid Avenue, Sioux Falls, SD 57117; 605/333-7191.

May 22-24 **International Symposium on Neuroblastoma Screening** Office of CME, University of Minnesota; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, MN 55455; 612/626-7600.

JUNE 1991

June 12-14 **Topics & Advances in Pediatrics** Office of CME, University of Minnesota; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, MN 55455; 612/626-7600.

June 19-22 **55th Annual Course: Progress in Trauma and Critical Care Surgery** Department of Surgery, University of Minnesota Medical School; Willey Hall, U of M, Minneapolis, MN. CONTACT: Office of CME, University of Minnesota, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, MN 55455; 612/626-7600.

June 20 **Introductory Seminar: Lasers in General Surgery** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

June 21-22 **Comprehensive Laparoscopic Seminar: Cholecystectomy, Inguinalhaphy, Herniorrhaphy, Appendectomy, Peptic Ulcer Surgery** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

June 21-22 **Sexual Attitude Reassessment Seminars (SAR)** University of Minnesota; Program in Human Sexuality, Minneapolis, MN. CONTACT: SAR Coordinator, Program in Human Sexuality, 2630 University Avenue SE, Minneapolis, MN 55414; 612/627-4360.

JULY 1991

July 20-27 **Ninth Annual Medical Seminar** North Memorial Medical Center, University of Minnesota Department of Family Practice, and St. John's Regional Health Center; Plummer's Great Slave Lake Lodge, NW Territories, Canada. CONTACT: Joseph F. Bocklage, M.D.; 612/588-9478.

SEPTEMBER 1991

Sept. 27 **Thrombolytic Therapy in Acute MI** Abbott Northwestern Hospital; Minneapolis Heart Institute, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

Sept. 27-28 **CO_2 Laser: An Introductory Course in Office and Outpatient Procedures** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

OCTOBER 1991

Oct. 2-4 **Fourth International Symposium on Biliary Stone Therapy** Mayo Clinic and Mayo Foundation; Mayo Clinic, Rochester, MN. CONTACT: Rita Kunz or Jan Fleck, Mayo Clinic, 200 1st Street SW, Rochester, MN 55905; 507/284-2509 or 800/323-2688.

NOVEMBER 1991

Nov. 1 **Thrombolytic Therapy in Acute MI** Abbott Northwestern Hospital; Minneapolis Heart Institute, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

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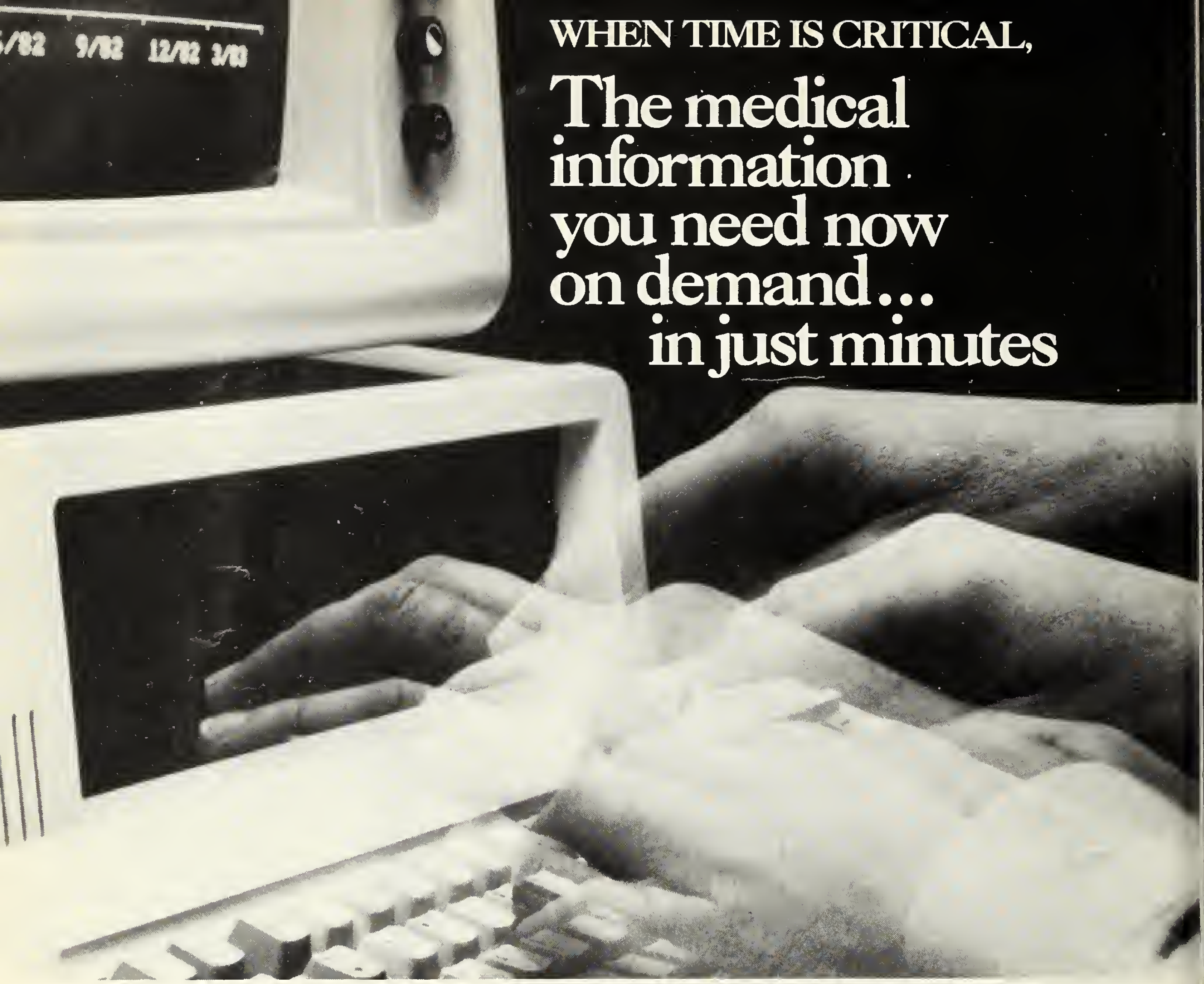
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- The publisher reserves the right to decline or withdraw advertisements. The publisher is not responsible for clerical or typographical errors and is not permitted to divulge the identity of advertisers who have replies sent to box numbers.
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Family Physician/Emergency Room: Full-time salary working weekends, primarily emergency room. Flexibility available. Falls Medical Center, PA, 105 Shorewood Drive, International Falls, MN 56649. Please contact: A. Johnson, M.D., or A. Marc Gorden, M.D., at 218/283-9431 for more information. (R)

Family Physician wanted to join four physicians, one nurse practitioner, FP group practicing in two offices in Pine River and Pequot Lakes. Competitive salary. No ob. No HMOs. Rural area with outdoor recreational opportunities. Rotate call; adequate free time. Call or write: Gary G. Kohls, M.D., Pine and Lakes Clinics, PO Box 88, Pine River, MN 56474; 218/587-4416. (R)

Physician: GP/FP/EM seeks locations to cover on weekends as locum tenens. Board-certified. FP. Lic. Minn. Write: Box 35132, Minneapolis, MN 55436. (R)

Family Physician: Dynamic 14-physician, two-PA, three-office, single-specialty practice in northwest Minneapolis suburbs seeking additional associate, BC/BE; ob available. Competitive salary, full benefits, reasonable call and hospital rounds schedule. Contact: Dr. Diane Shuck, 612/537-8405; or Mark Pottanger, 612/537-8475, Northwest Family Physicians. (*R)

Wausau Medical Center is seeking BC/BE individuals in the following specialties: cardiology, dermatology, family practice, infectious disease, obstetrics/gynecology, pediatrics, and rheumatology. Modern clinic facility located across the street from modern, 300-bed hospital. Full partnership in three years. Easy access to lakes, woods, and mountains. Write (including CV) to: D.K. Aughenbaugh, M.D., Medical Director, Wausau Medical Center, 2727 Plaza Drive, Wausau, WI 55401. (R)

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Outstanding Opportunity for a BC/BE Family Physician to join a progressive medical community with eight physicians oriented to family practice. Details will be given by contacting: Dr. Tim Schmitt, Wadena Medical Center, 218/631-1360, or Jim Lawson, Administrator, Tri-County Hospital, Wadena, MN 56482; 218/631-3510. (R)

Locum Tenens physicians needed. Physicians and locations coordinating services. Write to: Margaret Carse, MED Professional Resource Search, PO Box 35215, Minneapolis, MN 55435. (10/89-R)

Family Practice: Physicians seeking a BC/BE family practice physician for the Norway, Michigan, service area. The physician would have the option of joining one of the existing practices and/or setting up his/her own practice. Anderson Memorial Hospital is a part of Dickinson County Hospitals and has a service-area population of over 45,000. Contact: Dr. Paul Hayes, Anderson Memorial Hospital, Main Street, Norway, MI 49870; 906/563-9243, or office 906/563-9255. 2-3/91

Urgent Care/Primary Care physicians for over 90 group positions in metropolitan Phoenix/Tucson, Arizona. Excellent compensation/partnership opportunities. Other quality positions nationwide. Send CV or call: Mitch Young (MM), PO Box 1804, Scottsdale, AZ 85252; 602/990-8080. (*1/90-R)

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Mankato: FP partner to join four board-certified family physicians, ages 31-41, in fast-growing, full-range practice, includes ob. Population 40,000+. 70 miles to Twin Cities. Four colleges nearby. 90+ physicians on hospital staff. Academic appointment available. Call: Tony Giefer, M.D.; 507/387-8231. (1/90-R)

Family Physicians: Well-established south suburban Minneapolis family practice group seeks associates part/full time to staff day clinic. Excellent call schedule, salary, and fringe benefits. Also seeking locum tenens to staff PT/FT Urgent Care Centers and/or day clinic. Contact: Administration, Family Physicians, P.A., 612/435-4125, or send inquiries to Suite 100, 14050 Nicollet Avenue South, Burnsville, MN 55337. (*9/89-R)

Dermatologist, Psychiatrist, Allergist, Internal Medicine, Family Practice: A progressive, 126-bed, two-hospital system is seeking the above specialties to establish practices in the Iron Mountain area of Michigan's Upper Peninsula. Must be BC/BE. Located 100 miles north of Green Bay, Wisconsin. Dickinson County Hospitals has a medical staff of 45 full-time physicians and a total service-area population of over 45,000. Diagnostic capabilities include a CT scanner, CO_2 laser, and a fully staffed special diagnostic department. Contact: John Schon, Administrator, Dickinson County Hospitals, 400 Woodward Avenue, Iron Mountain, MI 49801; 906/779-4500. *2-4/91

STAFF INTERNIST POSITION

The University of Minnesota Boynton Health Service is seeking an internist to work in its comprehensive outpatient facility serving a population of 50,000 students, plus faculty and staff on the Twin Cities campus. Eighteen full-time equivalent physicians, 4 nurse practitioners, and 15 R.N.s are on staff. Our culturally diverse patient population includes 3700 international students/faculty from over 100 countries. Boynton Health Service is planning to become a managed care facility by January 1992.

This academic professional position requires an M.D./D.O. degree, BC.BE in internal medicine, and license to practice in Minnesota. Must have a broad range of medical abilities and relate well to an educated, health-conscious clientele. Interest in occupational medicine a plus.

Salary competitive and commensurate with training and experience. Regular hours and excellent fringe benefits including paid professional liability insurance, and CME.

Position available May 1, 1991, but starting date negotiable. Please send resume and three letters of reference by March 31, 1991 to Donald Severson, M.D., Chair, Physician Search Committee, University of Minnesota, Boynton Health Service, 410 Church Street S.E., Minneapolis, Minnesota 55455. For further information, call Dr. Severson at (612) 624-2933.

The University of Minnesota is an equal opportunity educator and employer and specifically invites and encourages applications from women and minorities.

BC/BE Family Practice and Internal Medicine Physician: Excellent opportunity to join well-established, progressive, 20-physician multispecialty group located in an economically sound community of 20,000 (drawing area of 30,000), 65 miles south of the Twin Cities. Full membership after one year. Competitive salary and fringe benefits package. Contact: Ed Durst, M.D., or Terry Tone, Administrator, 134 Southview, Owatonna, MN 55060; 507/451-1120.
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Internist to join a progressive 13-physician group practice. Rural college town 30 miles from St. Paul, Minnesota, constructing new clinic and hospital. Contact: Robert B. Johnson, M.D., River Falls, WI 54022; 715/425-6701.
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This academic professional position requires an M.D./D.O. degree, BC.BE in primary care specialty, and license to practice in Minnesota. Must have a broad range of medical abilities and relate well to an educated, health-conscious clientele. Interest in occupational medicine or pediatrics a plus.

Salary competitive and commensurate with training and experience. Regular hours and excellent fringe benefits including paid professional liability insurance, and CME.

Position available May 1, 1991, but starting date negotiable. Please send resume and three letters of reference by March 31, 1991 to Donald Severson, M.D., Chair, Physician Search Committee, University of Minnesota, Boynton Health Service, 410 Church Street S.E., Minneapolis, Minnesota 55455. For further information, call Dr. Severson at (612) 624-2933.

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Family Practice, Internal Medicine, Pediatrics, Urology, Obstetrics and Gynecology, Dermatology, and Orthopedics practice opportunities available at the Faribault Clinic. The Faribault Clinic is a multispecialty group practice of 14 physicians. Faribault is located 50 miles south of Minneapolis on I-35. For more information contact: Ray W. Wood, M.D., or Ken Smith, Administrator, 924 NE 1st Street, Faribault, MN 55021; 507/334-3921. (4/90-R)

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A JOURNAL OF CLINICAL AND HEALTH AFFAIRS

APRIL 1991 VOLUME 74 NUMBER 4

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COVER

Addicted Docs For years, chemical dependency was considered an occupational hazard of medicine, blamed on job stress and easy access to drugs. Experts now believe alcohol and drug addiction affect physicians at rates similar to the general population—but their recovery rate is better. It's hard for physicians to acknowledge their problem and seek help, says Gregory Amer, M.D., a recovering alcoholic, in this month's feature story (page 17). But the help is available through a progam called Physicians Serving Physicians, and the prognosis is excellent.

Cover art by illustrator Linda Frichtel.

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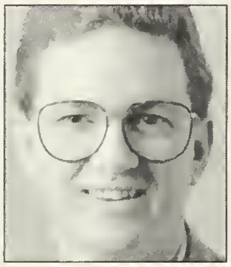

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HIV Infection in the Medical Work Place

Are Physicians and Patients at Risk?

Edmund C. Burke, M.D.

> "Patients and physicians have minimal risk of contracting HIV infection in hospitals or other medical settings."

Picture this scene: As you approach the health care facility, you see a sign reading, "Welcome to the XYZ clinic: Our doctors are HIV-negative," or "Welcome to the XYZ clinic: Only HIV-negative patients accepted."

Absurd, you say? Well perhaps, but maybe not impossible, considering the public's confusion and anger over the case of a Florida dentist transmitting HIV infection to at least three patients, and the AIDS-related death of a noted Johns Hopkins surgeon who had operated on about 1,800 patients.

The public has a right to be concerned. Organized medicine seems to have lost the initiative to educate the public about the true nature of HIV risk in the medical setting. Some physicians have even retired from surgery because of concern over acquiring HIV.

The Zumbro Valley Medical Society's Legislation Committee recently discussed the issue at length. Initially, the committee felt legislation for mandatory testing of all health care workers was appropriate, so it drafted a bill. The proposed bill provoked a blizzard of retorts and angry remonstrations, prompting the society to gather more information. It invited State Epidemiologist Michael Osterholm, Ph.D., and Michael Moen, director of Disease Prevention and Control at the Minnesota Department of Health, to Rochester to discuss the issue.

What the Zumbro Valley Medical Society learned was indeed a revelation. Much of the information, which convinced the society to postpone action on the bill, is contained in this month's Face to Face interview with Michael Osterholm (page 9). He points out that rhetoric on the AIDS epidemic has reached a hysterical point in many areas of the country. Therefore, it's important that we exert our utmost effort to educate the public on the minimal risk of HIV transmission in the health care setting.

There is definitely less risk of infection in areas of low HIV prevalence such as Minnesota. In New York City, one of every 20 patients is infected with HIV, compared with one of every 120,000 in Greater Minnesota, according to Osterholm. Current studies estimate that about three per 1,000 HIV-exposed health care workers will actually become infected. In other words, 997 will not develop HIV after such exposure.

Overall, AIDS and HIV infection are not very prevalent in Minnesota. Slightly over 800 AIDS cases and 1,548 HIV infections were reported to the Minnesota Department of Health by the end of 1990, according to the Minnesota Department of Health *Disease Control* newsletter (December 1990). The majority of these patients live in the Twin Cities area and are homosexual or bisexual men and/or intravenous needle users. The Minnesota Department of Health predicts the number of AIDS cases in the state will reach around 1,238 to 1,611 by the end of 1992. In a state with a 4.3 million population, these numbers are relatively small.

When we consider the cost of mandatory HIV testing and the question of how often to test, the issue becomes very complicated. We can assume that eventually the cost will filter down to the patient paying the bill, and since we are already deeply concerned about medical care costs, mandatory or indiscriminate HIV testing is out of the question.

As medical students, we were taught that the only way to halt an epidemic is through preventive measures, not treatment. An article in the June 21, 1990, *New England Journal of Medicine* entitled "The Risk of Exposure of Surgical Personnel to the Patient's Blood During Surgery at San Francisco General Hospital" by Gehberding et al., revealed that accidental exposure to blood occurred during a number of procedures, and neither knowledge of a diagnosed HIV infection nor awareness of a patient's high-risk status influenced the rate of exposure. However, double-gloving prevented perforations of the inner glove and cutaneous exposure of the hand. The authors' data support the practice of double-gloving and the increased use of waterproof garments and face shields to prevent mucocutaneous exposure. However, no evidence was found to suggest that preoperative testing for HIV infection would reduce the frequency of accidental exposure to blood.

We can conclude several things from our experience with HIV infection thus far. First, patients and physicians have minimal risk of contracting HIV infection in hospitals or other medical settings. The extreme cost and the minimal benefits make mandatory testing inappropriate. Second, physicians who are HIV-positive should voluntarily refrain from performing surgical procedures or disclose their infection to the patient and proceed only with informed consent. In addition, all health care workers at risk of HIV infection because of their lifestyles should be tested, seek counseling, and refrain from high-risk behavior. Third, organized medicine—at all levels—should be more involved in programs to educate the public and their member physicians about minimizing the risk of HIV infection. **MM**

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Hypotension: Excessive hypotension is rare in uncomplicated hypertensive patients treated with VASOTEC alone. Patients with heart failure given VASOTEC commonly have some reduction in blood pressure, especially with the first dose, but discontinuation of therapy for continuing symptomatic hypotension usually is not necessary when dosing instructions are followed; caution should be observed when initiating therapy. (See DOSAGE AND ADMINISTRATION.) Patients at risk for excessive hypotension, sometimes associated with oliguria and/or progressive azotemia and rarely with acute renal failure and/or death, include those with the following conditions or characteristics: heart failure, hyponatremia, high-dose diuretic therapy, recent intensive diuresis or increase in diuretic dose, renal dialysis, or severe volume and/or salt depletion of any etiology. It may be advisable to eliminate the diuretic (except in patients with heart failure), reduce the diuretic dose, or increase salt intake cautiously before initiating therapy with VASOTEC in patients at risk for excessive hypotension who are able to tolerate such adjustments. (See PRECAUTIONS, *Drug Interactions* and ADVERSE REACTIONS.) In patients at risk for excessive hypotension, therapy should be started under very close medical supervision and such patients should be followed closely for the first two weeks of treatment and whenever the dose of enalapril and/or diuretic is increased. Similar considerations may apply to patients with ischemic heart disease or cardiovascular disease in whom an excessive fall in blood pressure could result in a myocardial infarction or cerebrovascular accident.

If excessive hypotension occurs, the patient should be placed in the supine position and, if necessary, receive an intravenous infusion of normal saline. A transient hypotensive response is not a contraindication to further doses of VASOTEC, which usually can be given without difficulty once the blood pressure has stabilized. If symptomatic hypotension develops, a dose reduction or discontinuation of VASOTEC or concomitant diuretic may be necessary.

Neutropenia/Agranulocytosis: Another ACE inhibitor, captopril, has been shown to cause agranulocytosis and bone marrow depression, rarely in uncomplicated patients but more frequently in patients with renal impairment, especially if they also have a collagen vascular disease. Available data from clinical trials of enalapril are insufficient to show that enalapril does not cause agranulocytosis at similar rates. Foreign marketing experience has revealed several cases of neutropenia or agranulocytosis in which a causal relationship to enalapril cannot be excluded. Periodic monitoring of white blood cell counts in patients with collagen vascular disease and renal disease should be considered.

Fetal/Neonatal Morbidity and Mortality: ACE inhibitors, including VASOTEC, can cause fetal and neonatal morbidity and mortality when administered to pregnant women.

Enalapril crosses the human placenta. When ACE inhibitors have been used during the second and third trimesters of pregnancy, there have been reports of hypotension, renal failure, skull hypoplasia, and/or death in the newborn. Oligohydramnios has also been reported, presumably representing decreased renal function in the fetus; limb contractures, craniofacial deformities, hypoplastic lung development and intrauterine growth retardation have been reported in association with oligohydramnios. Patients who do require ACE inhibitors during the second and third trimesters of pregnancy should be apprised of the potential hazards to the fetus, and frequent ultrasound examinations should be performed to look for oligohydramnios. If oligohydramnios is observed, VASOTEC should be discontinued unless it is considered life-saving for the mother.

Other potential risks to the fetus/neonate exposed to ACE inhibitors include: intrauterine growth retardation, prematurity, patent ductus arteriosus; fetal death has also been reported. It is not clear, however, whether these reported events are related to ACE inhibition or the underlying maternal disease. It is not known whether exposure limited to the first trimester can adversely affect fetal outcome.

Infants exposed *in utero* to ACE inhibitors should be closely observed for hypotension, oliguria, and hyperkalemia. If oliguria occurs, attention should be directed toward support of blood pressure and renal perfusion.

Enalapril has been removed from the neonatal circulation by peritoneal dialysis and theoretically may be removed by exchange transfusion, although there is no experience with the latter procedure.

There was no fetotoxicity or teratogenicity in rats treated with up to 200 mg/kg/day of enalapril (333 times the maximum human dose). Fetotoxicity, expressed as a decrease in average fetal weight, occurred in rats given 1200 mg/kg/day of enalapril, but did not occur when these animals were supplemented with saline. Enalapril was not teratogenic in rabbits. However, maternal and fetal toxicity occurred in some rabbits at doses of 1 mg/kg/day or more. Saline supplementation prevented the maternal and fetal toxicity seen at doses of 3 and 10 mg/kg/day but not at 30 mg/kg/day (50 times the maximum human dose).

If VASOTEC is used during pregnancy or if the patient becomes pregnant while taking VASOTEC, the patient should be apprised of the potential hazards to the fetus.

Precautions: *General: Impaired Renal Function:* As a consequence of inhibiting the renin-angiotensin-aldosterone system, changes in renal function may be anticipated in susceptible individuals. In patients with severe heart failure whose renal function may depend on the activity of the renin-angiotensin-aldosterone system, treatment with ACE inhibitors, including VASOTEC, may be associated with oliguria and/or progressive azotemia and rarely with acute renal failure and/or death.

In clinical studies in hypertensive patients with unilateral or bilateral renal artery stenosis, increases in blood urea nitrogen and serum creatinine were observed in 20% of patients. These increases were almost always reversible upon discontinuation of enalapril and/or diuretic therapy. In such patients, renal function should be monitored during the first few weeks of therapy.

Some patients with hypertension or heart failure with no apparent preexisting renal vascular disease have developed increases in blood urea and serum creatinine, usually minor and transient, especially when VASOTEC has been given concomitantly with a diuretic. This is more likely to occur in patients with preexisting renal impairment. Dosage reduction and/or discontinuation of the diuretic and/or VASOTEC may be required.

Evaluation of patients with hypertension or heart failure should always include assessment of renal function. (See DOSAGE AND ADMINISTRATION.)

Hyperkalemia: Elevated serum potassium (> 5.7 mEq/L) was observed in approximately 1% of hypertensive patients in clinical trials. In most cases these were isolated values which resolved despite continued therapy. Hyperkalemia was a cause of discontinuation of therapy in 0.28% of hypertensive patients. In clinical trials in heart failure, hyperkalemia was observed in 3.8% of patients, but was not a cause for discontinuation.

Risk factors for the development of hyperkalemia include renal insufficiency, diabetes mellitus, and the concomitant use of potassium-sparing diuretics, potassium supplements, and/or potassium-containing salt substitutes, which should be used cautiously, if at all, with VASOTEC. (See *Drug Interactions*.)

Cough: Cough has been reported with the use of ACE inhibitors. Characteristically, the cough is nonproductive, persistent and resolves after discontinuation of therapy. ACE inhibitor-induced cough should be considered as part of the differential diagnosis of cough.

Surgery/Anesthesia: In patients undergoing major surgery or during anesthesia with agents that produce hypotension, enalapril may block angiotensin II formation secondary to compensatory renin release. If hypotension occurs and is considered to be due to this mechanism, it can be corrected by volume expansion.

Information for Patients: Angioedema: Angioedema, including laryngeal edema, may occur especially following the first dose of enalapril. Patients should be so advised and told to report immediately any signs or symptoms suggesting angioedema (swelling of face, extremities, eyes, lips, tongue, difficulty in swallowing or breathing) and to take no more drug until they have consulted with the prescribing physician.

Hypotension: Patients should be cautioned to report lightheadedness, especially during the first few days of therapy. If actual syncope occurs, the patients should be told to discontinue the drug until they have consulted with the prescribing physician.

All patients should be cautioned that excessive perspiration and dehydration may lead to an excessive fall in blood pressure because of reduction in fluid volume. Other causes of volume depletion such as vomiting or diarrhea may also lead to a fall in blood pressure; patients should be advised to consult with the physician.

Hyperkalemia: Patients should be told not to use salt substitutes containing potassium without consulting their physician.

Neutropenia: Patients should be told to report promptly any indication of infection (e.g., sore throat, fever) which may be a sign of neutropenia.

NOTE: As with many other drugs, certain advice to patients being treated with enalapril is warranted. This information is intended to aid in the safe and effective use of this medication. It is not a disclosure of all possible adverse or intended effects.

Drug Interactions: Hypotension: Patients on Diuretic Therapy: Patients on diuretics and especially those in whom diuretic therapy was recently instituted may occasionally experience an excessive reduction of blood pressure after initiation of therapy with enalapril. The possibility of hypotensive effects with enalapril can be minimized by either discontinuing the diuretic or increasing the salt intake prior to initiation of treatment with enalapril. If it is necessary to continue the diuretic, provide close medical supervision after the initial dose for at least two hours and until blood pressure has stabilized for at least an additional hour. (See WARNINGS and DOSAGE AND ADMINISTRATION.)

Agents Causing Renin Release: The antihypertensive effect of VASOTEC® (Enalapril Maleate, MSD) is augmented by antihypertensive agents that cause renin release (e.g., diuretics).

Other Cardiovascular Agents: VASOTEC has been used concomitantly with beta-adrenergic-blocking agents, methyldopa, nitrates, calcium-blocking agents, hydralazine, prazosin, and digoxin without evidence of clinically significant adverse interactions.

Agents Increasing Serum Potassium: VASOTEC attenuates potassium loss caused by thiazide-type diuretics. Potassium-sparing diuretics (e.g., spironolactone, triamterene, or amiloride), potassium supplements, or potassium-containing salt substitutes may lead to significant increases in serum potassium. Therefore, if concomitant use of these agents is indicated because of demonstrated hypokalemia, they should be used with caution and with frequent monitoring of serum potassium. Potassium-sparing agents should generally not be used in patients with heart failure receiving VASOTEC.

Lithium: Lithium toxicity has been reported in patients receiving lithium concomitantly with drugs which cause elimination of sodium, including ACE inhibitors. A few cases of lithium toxicity have been reported in patients receiving concomitant VASOTEC and lithium and were reversible upon discontinuation of both drugs. It is recommended that serum lithium levels be monitored frequently if enalapril is administered concomitantly with lithium.

Pregnancy: Pregnancy Category D. See WARNINGS, *Fetal/Neonatal Morbidity and Mortality.*

Nursing Mothers: Enalapril and enalaprilat are detected in human milk in trace amounts. Caution should be exercised when VASOTEC is given to a nursing mother.

Pediatric Use: Safety and effectiveness in children have not been established.

Adverse Reactions: VASOTEC has been evaluated for safety in more than 10,000 patients, including over 1000 patients treated for one year or more. VASOTEC has been found to be generally well tolerated in controlled clinical trials involving 2987 patients.

HYPERTENSION: The most frequent clinical adverse experiences in controlled trials were: headache (5.2%), dizziness (4.3%), and fatigue (3%).

Other adverse experiences occurring in greater than 1% of patients treated with VASOTEC in controlled clinical trials were diarrhea (1.4%), nausea (1.4%), rash (1.4%), cough (1.3%), orthostatic effects (1.2%), and asthenia (1.1%).

HEART FAILURE: The most frequent clinical adverse experiences in both controlled and uncontrolled trials were: dizziness (7.9%), hypotension (6.7%), orthostatic effects (2.2%), syncope (2.2%), cough (2.2%), chest pain (2.1%), and diarrhea (2.1%).

Other adverse experiences occurring in greater than 1% of patients treated with VASOTEC in both controlled and uncontrolled clinical trials were: fatigue (1.8%), headache (1.8%), abdominal pain (1.6%), asthenia (1.6%), orthostatic hypotension (1.6%), vertigo (1.6%), angina pectoris (1.5%), nausea (1.3%), vomiting (1.3%), bronchitis (1.3%), dyspnea (1.3%), urinary tract infection (1.3%), rash (1.3%), and myocardial infarction (1.2%).

Other serious clinical adverse experiences occurring since the drug was marketed or adverse experiences occurring in 0.5% to 1% of patients with hypertension or heart failure in clinical trials in order of decreasing severity within each category.

Cardiovascular: Cardiac arrest, myocardial infarction or cerebrovascular accident, possibly secondary to excessive hypotension in high-risk patients (see WARNINGS, *Hypotension*); pulmonary embolism and infarction, pulmonary edema, rhythm disturbances including atrial tachycardia and bradycardia, atrial fibrillation; palpitation.

Digestive: Ileus, pancreatitis, hepatitis (hepatocellular [proven on rechallenge] or cholestatic jaundice), melena, anorexia, dyspepsia, constipation, glossitis, stomatitis, dry mouth.

Musculoskeletal: Muscle cramps.

Nervous/Psychiatric: Depression, confusion, ataxia, somnolence, insomnia, nervousness, paresthesia.

Respiratory: Bronchospasm, rhinorrhea, sore throat and hoarseness, asthma, upper respiratory infection.

Skin: Exfoliative dermatitis, toxic epidermal necrolysis, Stevens-Johnson syndrome, herpes zoster, erythema multiforme, urticaria, pruritus, alopecia, flushing, diaphoresis.

Special Senses: Blurred vision, taste alteration, anosmia, tinnitus, conjunctivitis, dry eyes, tearing.

Urogenital: Renal failure, oliguria, renal dysfunction (see PRECAUTIONS and DOSAGE AND ADMINISTRATION), impotence.

A symptom complex has been reported which may include a positive ANA, an elevated erythrocyte sedimentation rate, arthralgia/arthritis, myalgia, fever, serositis, vasculitis, leukocytosis, eosinophilia, photosensitivity, rash, and other dermatologic manifestations.

Angioedema: Angioedema has been reported in patients receiving VASOTEC (0.2%). Angioedema associated with laryngeal edema may be fatal. If angioedema of the face, extremities, lips, tongue, glottis, and/or larynx occurs, treatment with VASOTEC should be discontinued and appropriate therapy instituted immediately. (See WARNINGS.)

Hypotension: In the hypertensive patients, hypotension occurred in 0.9% and syncope occurred in 0.5% of patients following the initial dose or during extended therapy. Hypotension or syncope was a cause for discontinuation of therapy in 0.1% of hypertensive patients. In heart failure patients, hypotension occurred in 6.7% and syncope occurred in 2.2% of patients. Hypotension or syncope was a cause for discontinuation of therapy in 1.9% of patients with heart failure. (See WARNINGS.)

Fetal/Neonatal Morbidity and Mortality: In infants exposed *in utero* to ACE inhibitors the following adverse experiences have been reported: Fetal and neonatal death, renal failure, hypoplastic lung development, hypotension, hyperkalemia, skull hypoplasia, limb contractures, craniofacial deformities, intrauterine growth retardation, prematurity and patent ductus arteriosus. (See WARNINGS, *Fetal/Neonatal Morbidity and Mortality.*)

Clinical Laboratory Test Findings: Serum Electrolytes: Hyperkalemia (see PRECAUTIONS), hyponatremia.

Creatinine, Blood Urea Nitrogen: In controlled clinical trials, minor increases in blood urea nitrogen and serum creatinine, reversible upon discontinuation of therapy, were observed in about 0.2% of patients with essential hypertension treated with VASOTEC alone. Increases are more likely to occur in patients receiving concomitant diuretics or in patients with renal artery stenosis. (See PRECAUTIONS.) In patients with heart failure who were also receiving diuretics with or without digitalis, increases in blood urea nitrogen or serum creatinine, usually reversible upon discontinuation of VASOTEC and/or other concomitant diuretic therapy, were observed in about 11% of patients. Increases in blood urea nitrogen or creatinine were a cause for discontinuation in 1.2% of patients.

Hemoglobin and Hematocrit: Small decreases in hemoglobin and hematocrit (mean decreases of approximately 0.3 g% and 1.0 vol%, respectively) occur frequently in either hypertension or heart failure patients treated with VASOTEC but are rarely of clinical importance unless another cause of anemia coexists. In clinical trials, less than 0.1% of patients discontinued therapy due to anemia.

Other (Causal Relationship Unknown): In marketing experience, rare cases of neutropenia, thrombocytopenia, and bone marrow depression have been reported. A few cases of hemolysis have been reported in patients with G6PD deficiency.

Liver Function Tests: Elevations of liver enzymes and/or serum bilirubin have occurred.

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HIV Infection in the Health Care Setting

Putting the Risk in Perspective

Minnesota Medicine interviews Michael T. Osterholm, Ph.D., M.P.H.

With the recent news of a Florida dentist transmitting the human immunodeficiency virus (HIV) to at least three patients, the public has become increasingly concerned about the risk of acquiring HIV infection from health care workers. The debate has become intense, with some pushing for mandatory AIDS testing and others adamantly opposing it.

In February, the American Medical Association and the American Dental Association issued a joint statement saying physicians and dentists who perform invasive procedures and are at risk of acquiring AIDS should be tested, and if HIV-positive, should either inform their patients or refrain from performing risky procedures. Response to the statement has been varied but strong, with many physicians arguing that it comes too close to proposing mandatory AIDS testing.

State Epidemiologist Michael Osterholm, Ph.D., M.P.H., recently reviewed the risk of acquiring HIV infection with the Zumbro Valley Medical Society's Legislation Committee. He presented data suggesting that widespread mandatory testing would do little to lessen the risk, which is minimal. Osterholm's discussion, which is recapped in this interview, convinced the society to postpone action on the bill.

Osterholm, also chief of the Acute Disease Epidemiology Section at the Minnesota Department of Health, has led studies to determine the risk of HIV infection in the health care setting, including the risk of patients transmitting HIV to health care workers.

Osterholm and the Health Department have been on the forefront of the AIDS issue, leading the nation in determining the accuracy of HIV testing and the risk of transmission in the health care setting. Osterholm, who believes some concerns about AIDS have been exaggerated, serves as a consultant to the Centers for Disease Control on this issue and is working to promote development of a reasonable policy that distinguishes between true risk and public fear.

Michael T. Osterholm

"We would be the first to promote responsible testing in the health care setting if data existed to show it works. It just doesn't."

Minnesota Medicine: Dr. Osterholm, thank you for agreeing to discuss a subject of great concern to health care workers and patients. We would like to hear your comments regarding the risk of acquiring AIDS in the health care setting. Can you help us put that risk in perspective?

Osterholm: To deal with the issue, we need to examine the risk of human immunodeficiency virus (HIV) transmission from patients to health care workers and, as the public is now demanding, from health care workers to patients. Many of the issues that affect one discussion affect the other.

I am concerned about our understanding of the concept of risk—something our society has had problems coming to terms with in a lot of other areas, such as the environment and product liability. What is the risk, and how much risk is society willing to accept?

I believe we could completely eliminate the patient's risk of acquiring HIV from health care workers. However, the cost would be extreme, not just in terms of money but also in terms of the amount of testing involved and the resulting diversion of resources. The converse is also true. We could ensure that a patient would never infect a health care worker—or at least come very close to that. But, again, the cost—economic and otherwise—must be considered. To guarantee that level of safety, some infected people would be denied certain services, some kinds of procedures would be avoided, and the type of technology we can apply to those procedures would be limited.

Instead of taking these extreme measures to eliminate the risk of HIV transmission entirely, we are trying to find a middle ground where the risk is acceptable—whether it be one in a million or one in 100,000. At the same time, we want to avoid prohibiting a health care worker from doing his or her everyday job and denying patients the services they need.

Continued

Minnesota Medicine: Do you think widespread HIV testing would significantly reduce the spread of AIDS?

Osterholm: Since 1985, we at the Minnesota Department of Health have strongly supported widespread testing of people who engage in behavior that puts them at risk of acquiring HIV. We believe it's very important for patients to know if they're infected. Early, appropriate treatment of HIV with Zidovudine (AZT) and other drugs can significantly increase the quantity and quality of life for people who are infected. This is similar in concept to managing patients with diabetes in the early stages to maximize the quality of their lives. We also know from studies that patients are more likely to initiate and maintain positive behavior to reduce the risk of HIV transmission if they know they are HIV-infected.

From the health care worker's standpoint, it's important to know about all aspects of a patient's health. A physician who is not aware of a patient's HIV infection cannot provide the most beneficial care, regardless of whether the physician is treating a broken leg or *Pneumocystis* pneumonia.

On the other hand, testing as we know it today has not increased infection control. All the data I am aware of demonstrate that knowing a person's HIV status does not reduce a surgeon's or other health care worker's risk of exposure to a sharp instrument. We would be the first to promote responsible testing in the health care setting if data existed to show it works. It just doesn't. What it does is cause relaxation of other infection-control measures.

The same is true for testing of health care workers. We have no data to support that widespread testing of health care workers would reduce the already very low risk of HIV transmission to patients.

> "I believe people are overreacting to public pressure and unnecessary fear of the situation."

HIV Testing

Minnesota Medicine: Before we further discuss the risks of acquiring HIV in the health care setting, let's talk about the tests. The public has misconceptions about what HIV testing involves. People hear about false positives and false negatives. Could you discuss the tests and their efficiency?

Osterholm: The whole issue has evolved since testing was introduced in 1985 to improve the safety of the blood supply. In 1985, we at the Minnesota Department of Health wrote the first major article in the country on concerns about the performance of HIV-antibody serology. The commentary was published in the *New England Journal of Medicine* three weeks before U.S. blood banks introduced HIV-antibody serology as part of a mandatory screen for blood donors. We discussed sensitivity, specificity, the predictive value of a positive result, and most important, what would happen to the blood supply if every year we mistakenly told 2 percent to 3 percent of the population they were HIV-positive. For one thing, many people wouldn't want to donate blood anymore, and we'd be diminishing the small group of people who routinely donate blood.

Since 1985, more than 450,000 donors have given blood in Minnesota. During this time, 23 donors tested positive for HIV by enzyme immunoassay (EIA) and Western blot. Twenty-two donors were then tested by virus culture to determine if they were really infected. The HIV culture was positive for all 22. The other donor who was found to be HIV-antibody positive was not available for testing. However, he was likely infected since he had a risk factor for HIV infection and was positive for hepatitis B surface antigen. There wasn't a single false positive in that entire group. This high degree of accuracy can be explained by a couple factors. First, the EIA test is what I'd call "oversensitive," so it picks up individuals who are not truly infected. The Western blot test, which is used to confirm a reactive EIA, has a very high specificity. Using both tests allows us to maintain extremely high sensitivity and specificity. In the hands of a competent laboratory technician, this test is as good as any in medicine. Consequently, I'm not concerned that someone will inappropriately be labeled infected.

Minnesota Medicine: If I remember right, since 1985 no one has acquired AIDS from transfusions, but, naturally, some people are greatly concerned about that possibility.

Osterholm: Your question brings up the flip side of the blood screening question, that is, has our testing missed someone who really was infected, and has that infected blood then been used for transfusion? We can't guarantee that hasn't happened, but of all the transfusion recipients who received blood after 1985 and have been tested, not one has tested positive for HIV, and many have asked to be tested. As far as we're aware, not one of the 350,000 Minnesotans who received blood from 1985 to 1990 has been diagnosed with HIV infection resulting from a transfusion.

It's important to realize that approximately 25 percent of those who received blood would have died during the initial trauma if the blood had not been available. The number of Minnesotans alive today because they received blood would more than fill the Metrodome, and not one has been identified as having HIV. This helps put the risk in perspective.

Minnesota Medicine: Let's talk about HIV-antibody seroconversion. How long does it take for HIV infection to show up on the antibody test once a person has been exposed to HIV?

Osterholm: That depends on which testing method we use. If we use the sequential EIA and Western blot testing, which is the standard method, seroconversion for most infected persons will occur within 45 to 60 days. Seroconversion can take as long as six months for 1 percent or 2 percent of individuals infected with the virus. The vast majority of people who have seroconverted have detectable antibody within the first two months after infection. With health care workers who have a documented exposure, we've gone one step further and are now using things like p-24 antigen, polymerase chain reaction testing, and HIV culture. Using these supplemental tests, we can be almost certain of infection status within 35 to 45 days.

Health Care Workers' Risk

Minnesota Medicine: What is the prevalence of HIV and AIDS in health care workers?

Osterholm: HIV-infected health care workers need to be separated into two categories—those who acquired the virus through nonoccupation-related behaviors, including male-to-male sex and IV needle use, and those who acquired the virus occupationally. Of the 150,000 adult AIDS patients diagnosed in the United States through 1990, approximately 8,000 are health care workers. This large number often surprises people, but it shouldn't, because health care workers make up about 5 percent of our nation's work force. The majority of those 8,000 health care workers acquired AIDS through risk behaviors not related to their occupations. By far, most are men who have had sex with men. This shows that we haven't done the best job in promoting risk reduction or behavior change in our own health care workers—the very people who are supposed to be helping the general population reduce their risk.

Some health care workers do acquire HIV infection as a result of their occupations. Currently in this country, we are aware of approximately 46 people who have acquired HIV as a result of an occupational exposure. Thirty of those are individuals with confirmed exposure. They tested negative for the virus immediately after the exposure and seroconverted within six to 10 weeks following exposure. The other 13 we call prevalent-positive, meaning they were positive when tested. These include individuals infected prior to 1985, before HIV serology was available. However, in this latter group, we cannot account for any other source of their HIV infection. Currently, there are only three occupation-related AIDS cases in health care workers. Most, if not all, of these other 43 HIV-infected health care workers will become the occupation-related AIDS cases of tomorrow.

As of September 1990 in Minnesota, we had 46 cases of AIDS in health care workers, 43 of them men. The mechanism of transmission of HIV has been identified for all 46 cases, and none of the cases represents occupational exposure.

Minnesota Medicine: From your description, the health care setting is not a particularly risky place for acquiring AIDS.

Osterholm: That depends on your perspective, of course. If you're one of those 46 individuals from around the country who is HIV-infected as a result of occupational exposure, you'll probably say the work place is very risky. But if we look at the big picture, a health care worker has a greater statistical chance of dying in a car accident on the way to and from work than of acquiring and dying from occupation-related AIDS. I agree, however, that this statistic isn't particularly comforting to the health care worker. Many health care workers argue that an individual willingly assumes the risk of driving a car, but that isn't the case when a person is accidentally exposed to HIV in the health care setting. I think that's a legitimate point, but still, the risk of acquiring HIV on the job is incredibly low.

Minnesota Medicine: Does the risk vary from one part of the country to another?

Osterholm: Yes. The risk of developing HIV infection depends on several factors, including the likelihood of being exposed to blood. The exposure rate varies by occupation, the procedures a person does, and, to a certain degree, the person's technique. Also important is the prevalence of HIV infection at the institution where a person works. For example, in some hospitals in New York City, one out of every 20 patients is infected with HIV, compared with Greater Minnesota, where only about one of every 120,000 people is infected. The other factor is the likelihood of transmission occurring when a person is exposed. We know from studies that about three per 1,000 health care workers who have a percutaneous exposure from a sharp contaminated with HIV-positive blood will actually become infected. In other words, 997 out of 1,000 health care workers who were exposed to HIV through a break in the skin will not develop HIV after that exposure. Given the rate of HIV infection in Minnesota patients, the lifetime chance of a health care worker in a Minnesota hospital developing acute infection is roughly about five in 100 million procedures. We would expect less than one case per 1,000 surgeons over a lifetime after accounting for all the factors. However, this number changes if you're at an institution in New York City, where up to five of every 1,000 surgeons can expect to develop HIV infection during their lifetimes. The big difference is not their technique or the rate of transmission given a positive exposure; it's the number of patients they see who have the virus.

Patients' Risk

Minnesota Medicine: Let's examine the other side, namely, the patient's risk. What is a patient's risk of acquiring AIDS from surgeons or other health care workers?

Osterholm: As you know, this issue is being played up on television and on the front pages of our newspapers and weekly tabloids. However, to date, we know of just a single instance of patients being infected by a health care worker. In this case, HIV was transmitted from a

Florida dentist to three patients. There will be more. But what is the risk over time? Is it one in 1,000 instances? One in a million? One in 10 million? That's where there may be some reasonable disagreement. Our experience with HIV and health care workers transmitting to patients is limited, but we have a relative wealth of information regarding hepatitis B, and many parallels can be, and should be, used to help anticipate the HIV experience.

Minnesota Medicine: Please expand on the concept of hepatitis B as an analogy to HIV infection.

Osterholm: First, we know that hepatitis B virus is transmitted in manners identical to HIV. The one difference is quantitative, not qualitative. All the same bodily fluids are involved, but when a person receives a needle stick from a hepatitis B-infected patient, transmission occurs about 30 percent of the time. With HIV, as I mentioned, it occurs only about three out of 1,000 times.

In Minnesota, we've had a very active hepatitis B surveillance program. In fact, our first efforts were reported in *Minnesota Medicine* in the early 1980s and subsequently have been published in other journals like *JAMA*. We have followed up on all health care workers to learn where they received their infections. We've also followed up on all patients, attempting to discern where they acquired their infections, considering the health care worker or contaminated blood as possibilities. In 15 years, we've followed more than 430 infected health care workers and identified only two who transmitted hepatitis B to patients. One was an obstetrician/gynecologist in the Twin Cities who transmitted hepatitis B to three patients while performing vaginal hysterectomies. The physician had only recently become infected and was not aware of it. He was doing vaginal hysterectomies using his left index finger to locate the tip of the suture needle. The needle was in his right hand; he was sticking his glove into this blind field, causing him to bleed through the tips of his fingers. He has stopped using that technique and has continued to perform other surgical procedures, and there has been no evidence of hepatitis B transmission to other patients for the last 12 years. The other instance involved a surgeon who transmitted the hepatitis B virus to a patient during a rather uncomplicated surgery that took place one day before the surgeon's acute onset of hepatitis B. We know of other surgeons in this state who are chronic carriers of hepatitis B, but we have no evidence that they have transmitted it to patients.

As infectious as hepatitis B is, we know of only two infected health care workers who have transmitted the infection in Minnesota. I predict that if 500 health care workers became infected with HIV in this state, we very well might have no HIV transmission to patients. This is basically the same issue raised earlier of patient HIV transmission to health care workers. We have to apply the same logic and risk standards to health care workers as to patients. I do not see this as an issue warranting the dramatic measures that some people have suggested. I believe people are overreacting to public pressure and unnecessary fear of the situation.

> "We need to put the issues on the table in order to distinguish fact from emotion. Somewhere in between we'll find a reasonable policy."

Fear of AIDS

Minnesota Medicine: Is AIDS like many problems in medicine, where people are unfamiliar with the facts, and they become fearful to the point of hysteria?

Osterholm: Yes, and AIDS typifies this as well as any issue in society. In 1985, I attended school board meetings to discuss the risk of HIV in school children and whether infected children should be allowed to attend school. There has never been evidence of HIV transmission in the school setting, even though HIV-infected children attend school. At the meetings, I saw parents stand at the microphone with a cigarette in their hand and say, "I can't accept any risk to my child. I can't accept HIV-infected children in my child's school." At about the same time as these meetings, eight Minnesota children were killed in school bus accidents, yet those same parents put their children on the school bus every morning, and they allowed them to play football—a sport that four children died while playing that same year. I'm terribly concerned that we might be approaching HIV infection in health care workers similarly—with exaggerated fear clouding reality.

Minnesota Medicine: As a final question, what kind of HIV-testing recommendations do you think the Centers for Disease Control will make?

Osterholm: As a scientist, I like to believe that the real world operates on fact, although I know that's not true. I am concerned that political, as well as scientific, issues may be brought to bear on the Centers for Disease Control. It will be interesting to see to what degree the political process influences scientific decisions. If the decisions stay in the hands of the scientists, I have great faith that the CDC will establish a reasonable policy that is responsive to the interests and needs of all parties. If there is too much political influence, I believe policies will eventually be in place that are not based on science and fact, but will instead appeal to certain constituencies.

We need more forums like this interview to spur reasonable policy development. We need to put the issues on the table in order to distinguish fact from emotion. Somewhere in between we'll find a reasonable policy. **MM**

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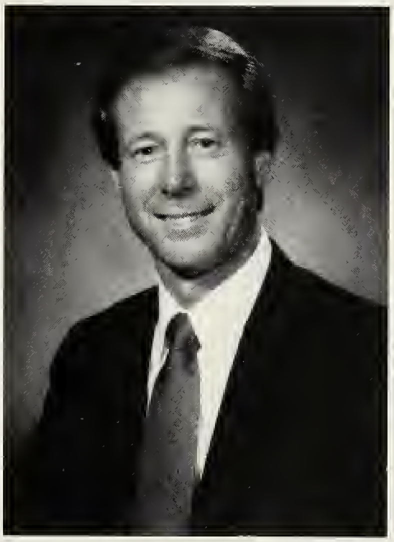

Dennis J. Sakry

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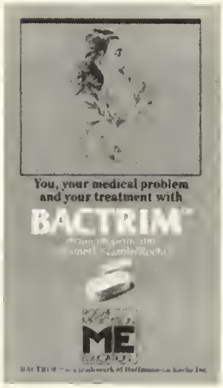
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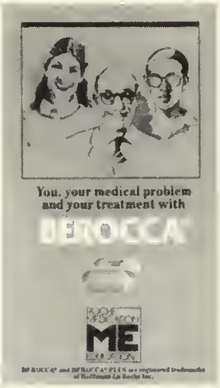
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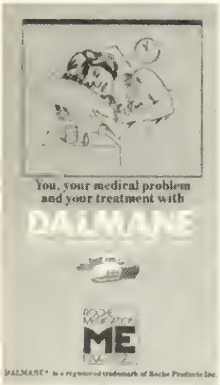
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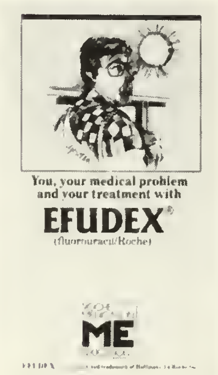
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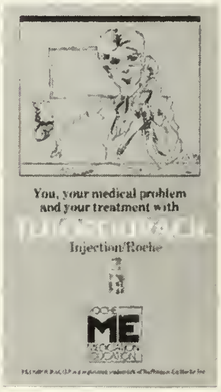
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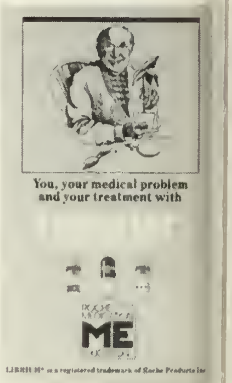
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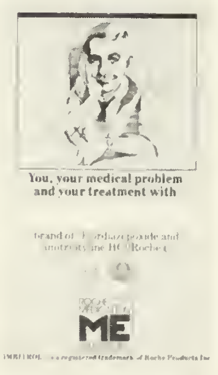
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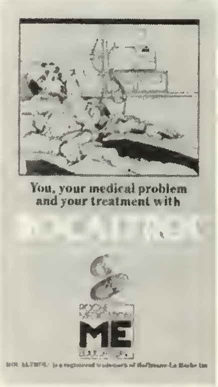
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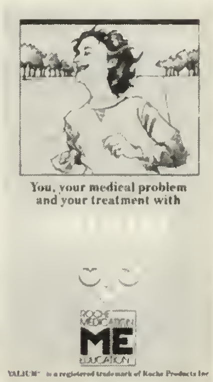
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The Black Bag

Edward G. Lufkin, M.D.

Staring out at the leaden sky from my paneled office on the 18th floor of a large Midwestern multispecialty clinic, I ponder again the life I lead as a modern internist and compare it wistfully with the life my father must have known as a family physician 50 years ago in Northfield, Minnesota. I brood over a recent patient who appeared in my office through random selection for the purpose of finding a cause for her weakness and weight loss. Several months of medical care elsewhere had been unrevealing. After a few days of talking, probing, bloodletting, scanning, and endoscoping, it was apparent that she suffered all the ravages of smoking: emphysema, occlusive vascular disease, an aortic aneurysm, and non-small cell carcinoma of the left lung. I had just been called from the hospital. After finishing her outpatient tests, the patient had a seizure in her hotel room and was brought to the emergency room. Yet another scan was done, brain metastases were found, and she was admitted to the hospital for one or two days of stabilization before being sent home to await death. Ten or 12 physicians would have assisted in her care, the cost would be several thousand dollars, and none of us would ever see her again. Would her outcome have been different under my father's care 50 years ago? I think not.

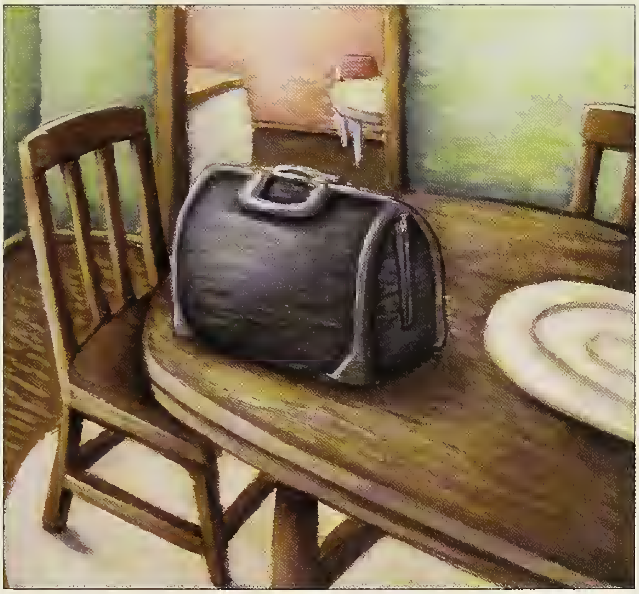

Illustration by Rick Peterson

Quite probably she would not have sought a doctor until the seizure caught her, laboring at her farm chores, and only then would her husband have looked for help. Dad would have loaded his bag and headed out to the farm in his '32 Dodge, possibly needing to be pulled from a snowdrift by a team of horses in the process. He would have found her in the one heated room in the house, the living room. The dark room would be lit by candle, the air heavy with the odors of dog urine, breakfast, and bodies not yet acquainted with deodorants. He would have made an examination, given her a supply of phenobarbital, and for further evaluation would have seen her in the office or possibly referred her to a neurologist at the university. The cancer would have claimed her with the same relentless pace, and at her death he and his black bag would be there.

Perhaps the best glimpse of Dad's professional life in post-Depression Minnesota can be gotten by a description of that bag. Dad's bag is a big, solid, no-nonsense case of black leather reinforced with plywood, and were it not for this description, it would be anonymous forever. He called it his "calamity bag," and despite its central place in his life, it bears no name tag or initials. It measures 16 inches by 8 inches by 10 inches, weighs about 12 pounds loaded, and is carried by two leather handles. Its shoulders are rounded as though by age, and sitting on a table it gives off an air of solemn dignity and self-respect. Its corners are reinforced by leather patches riveted into place, and the two shoulders open opposite each other on lengthwise hinges. On one side are two compartments, one filled with dressings and the other with syringes and a sub-compartment with needles, sutures, and a flip-open black case with 20 ampules: Gynergen, Caffeine Sodium Benzoate, 25% Nikethamide, Estrolin in oil, 2.5 g Phenobarbital sodium in 2% benzyl alcohol, 1% Metycaine, Koidin (methylnaphthoquinone, 1 mg in sesame oil), and 1 cc Digiglusis (possessing, we are told, an activity of one cat unit), a slender tube of Morphine Sulfate tablets, 1/60 g, with Atropine, Epinephrine hydrochloride 1:1000, Pituitary solution for Obstetrical Use (10 International Units), and three blades for sawing open the vials.

The opposite shoulder opens on two chrome-plated containers for tongue blades and cotton, a semi-flexible 16 F bakelite catheter, a Foley catheter, and a plastic hemocytometer kit with two slides and two suction tubes. The main compartment has a stethoscope, its rubber tubes long since crumbled and gone; a triangular reflex hammer whose rubber is hard and cracked and mottled with dry white mold; a box of brittle finger cots;

an ophthalmoscope, its black lacquer worn through by many handlings; and for me the greatest treasure and memory of all, a strong case of thick dark brown leather holding the entire pharmacopoeia of the time in 19 glass bottles with metal screw caps. Listing their contents in order, possibly the order of their importance to homebound patients, I find Morphine Sulfate, 0.25 g (Warning: May be habit forming. POISON); Amytal, 1.5 g; Upjohn throat tabs; Phen-Acetyl with Codeine Sulfate, 0.25 g; Pentobarbital Sodium, 1.5 g; Theodiatal; Theobromine-Phenobarbital Cpd; Aminophylline, 1.5 g; Phenobarbital, 0.5 g; Digifortis, 1.5 g P.D.; Ephedrine Sulfate, 0.75 g; Sulfathiozole, 0.5 g; Salicyl and Phenacetin Aromatic; Codeine, 0.25 g; Phenamidal; Aspirin, 5 g; Phenamical; Phenobarbital, 1.5 g; and Sodium Salicylate, 5 g.

My first encounter with these wonderful little bottles, standing at attention like little soldiers in their leather holders, was at the age of three, when I found them in the hall one morning before Dad left for work and took them outside and strewed their contents on the sidewalk. The bright pink Ephedrine capsules danced merrily, I must have noted, with the yellow Phen-Acetyl with Codeine. Of course, I received the licking of my life, but my fascination with these implements and nostrums has not dimmed one iota 52 years later. In fact, the sight of this bag now on my dining table is an epiphany—a sudden revelation of all that my father knew and cared about in his daily life, a full measure of his days on earth, of his strengths and weaknesses, his joys and fears. I can see him now, hanging up the phone and rushing out the door with his precious bag, the excitement and rush of good will pouring out of him. But as I try to imagine myself in his place, facing the sick and dying singlehandedly with these paltry tools, with no antibiotics, no effective antihypertensives, no diuretics, no hormones, no antiarrhythmics, few antacids, and only three good pain drugs and a few good sedatives, the prospect leaves me weak. I begin to understand how a woman could die in childbirth, how a child could die of strep throat or whooping cough or meningitis, and how all could perish from appendicitis, pneumonia, TB, heart failure, or a host of other ravages of the time for which treatment is now considered routine. The leap is too much for me. I've been hopelessly spoiled by my times.

> "The sight of this bag now on my dining table is an epiphany—a sudden revelation of all that my father knew and cared about in his daily life."

No records were kept of his private practice, and he told me little of his clinical experiences in the 10 years of his life in private practice, even after I became a physician. Most of the anecdotes I recall were given to me by grateful patients of his or friends and relatives. He did tell me that of all the contents in his calamity bag, the one capable of bestowing the greatest and fastest comfort was that shiny brown 16 F catheter! It hadn't occurred to me that acute urinary retention would ever happen in an educated society, but on many occasions he would arrive at a farmhouse to find an elderly man in agony because of it. The simple passage of that slender tube brought instant relief and surpassing gratitude.

After receiving his M.D. degree at the University of Minnesota in 1927, my father interned at Ancker Hospital, St. Paul, then took a position at the Kula Sanitarium, Hawaii, both to satisfy his wanderlust and to pay off a school loan from his uncle, a banker in Hawaii. He returned to the United States in 1933, set up a very small general practice in Dundas, Minnesota, married my mother, and relocated to Northfield in 1934. He hired a medical technologist, Verna, fresh from her year of training in Minneapolis, and she busied herself with bookkeeping, dictation, and sweeping for lack of laboratory demands. Cash was more scarce than food, so my father's fees were often collected as chickens, eggs, thick cream, and on one occasion especially prized by my mother, as a bowl of frosted ginger cookies. The Northfield "hospital" consisted of a frame house with four beds on the ground floor and an operating table on the second floor. After inspecting this hospital once, my mother decided that her first child would be delivered at home, and it was. This child was my twin brother, and he was fine. The afterbirth, however, turned out to be me. The attending doctor, a colleague brought close to my father by many evenings of drinking, was shocked, but no more so than my parents, and yet all ended happily. No complications ensued, an extra teddy bear was purchased, and life went on. The subsequent three children, however, were born in a hospital. When my oldest sister arrived 14 months later, cribs were scarce in the hospital, so she was housed in a dresser drawer. The doctor who delivered me fell victim to one of the bottles in his bag, became a morphine addict, and lost his practice.

If Dad enjoyed the heft of his bag as he lugged it around on house calls, he enjoyed even more the last, climactic moment he owned it before bequeathing it to me. It was Christmas, a time always overcharged with magic and emotion in my family, and I had become a physician myself, age 30 and presumably grown up enough to have the bag, to protect it, and to appreciate suitably the legacy it represented. He had that look of barely contained mischief and generosity on his face reserved for the last and grandest gift of the day, perhaps of his life. With his eyes narrowed, lower lip curled under, and tongue peeking out, my father was giving me something more than a gift. It was his life, his youth, his rapture—and he wanted me to have it. MM

Edward Lufkin is a clinical endocrinologist at Mayo Clinic, where he has worked since 1974. Previously, he spent eight years as a military physician. He graduated from Northwestern University Medical School in 1961.

COVER STORY

ADDICTED DOCS

Care givers who need care

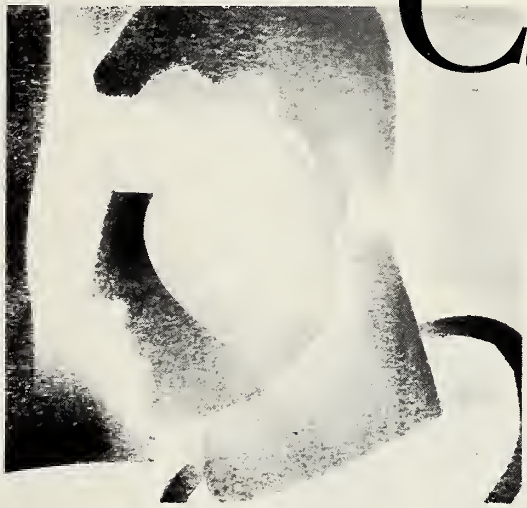
ILLUSTRATION BY LINDA FRICHTEL

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Gregory Amer, M.D., is an alcoholic. He is a recovering alcoholic, which means he hasn't had a drink since the day he acknowledged his powerlessness over the demon spirits. If he were to have a drink today, he'd be in a lot of trouble, he says, because alcoholism, unlike some other diseases, does not go away.

When Amer was still under the influence of alcohol, he tried to convince himself that he was a social drinker, but he knew his drinking was out of control. As his drinking progressed, he told himself, "This isn't what social drinkers do. Social drinkers aren't hiding their drinking. Social drinkers aren't drinking as much as I'm drinking."

If anyone should know the difference between social drinking and addiction, it's Amer, who is medical director of St. Mary's Chemical Dependency Services and an addiction specialist. In addition to his work at St. Mary's, Amer has a private practice as a family practitioner, and he actively volunteers with Physicians Serving Physicians, an organization of recovering physicians who help those still struggling with addiction.

In a recent interview, Amer sent a message of hope to struggling physicians. Through his frank remarks about his own battle with alcohol and about his recovery, he made it clear that physicians who need help can get it, and they do get better. He also spoke about the nature of chemical dependency and about the frequent inability of the medical profession to approach addiction as a disease, even though it formally recognizes it as such.

By Miriam K. Feldman

"My story is interesting," Amer says, "because I was treating patients with alcoholism at the same time that my own disease of alcoholism was getting worse and worse and worse." Yet, despite all his medical expertise, Amer couldn't help himself. That, he says, is testimony to the power of both the disease and the denial that goes with it. "I knew a lot about alcoholism, and the last thing I ever wanted to be was an alcoholic. It was as if it didn't fit me at all. I hated alcoholism."

> "I was supposed to be helping other people. How could anybody help me?"
>
> *–Gregory Amer, M.D.*

Indeed, alcoholism does not seem to fit Amer, who is a tall, lanky, 41-year-old, with boy-next-door good looks and an exceedingly kind and relaxed manner. In fact, nobody but Amer knew about his drinking, because, as he explains, he was a very successful closet alcoholic, hiding his drinking from everyone, including his wife.

ILLUSTRATION BY LINDA FRICHTEL

No one knows how many physicians are chemically dependent. It is generally accepted that 10 percent of the population are alcoholics, 7 percent are addicted to drugs, and physicians are no different from the rest. (For the remainder of this story alcoholism and drug addiction will be referred to as chemical dependency or addiction. The American Medical Association and the American Society of Addiction Medicine make no distinction in categorizing addiction to alcohol, illegal drugs, or even controlled substances, and consider all chemical dependency.)

It is significant that the incidence of addiction among physicians is now thought to be no different from the incidence in the rest of the population; until recently, addiction was assumed to be one of medicine's occupational hazards. The problem was blamed on job stress combined with easy access to drugs. Reports in the medical literature stated that physicians were 30 to 100 times more likely to become addicted than the general population. A 1986 *Journal of the American Medical Association (JAMA)* article changed all that when its author, Joan Brewster, charged that those earlier reports were extreme and lacked empirical support. Brewster argued that the prevalence of addiction among physicians is unknown, but it could be assumed that physicians are no more likely to be addicted than others.

Brewster made an important contribution by laying to rest earlier exaggerated reports of physician addiction; however, she left it to others to determine the extent of the problem. That still hasn't been done.

"I don't think there's any good data out there on the epidemiology of substance abuse among physicians," said Roger Brown, a senior scientist with the AMA's Department of Mental Health. A nationwide epidemiological study underway at the University of South Florida may give us a better picture, said Brown, but the whole area is still wide open for study. Whatever the number, the point is that physicians, like everyone else, can be chemically dependent—that sometimes the care givers need care, too.

The AMA first acknowledged this problem in a 1973 *JAMA* article, called "The Sick Physician." The article, prepared by the AMA's Council on Mental Health, is generally regarded as the genesis of the physicians' health movement. It was a call to arms, advising the medical community to take care of its own and to recognize and deal with colleagues who are impaired by alcohol and drugs. "The Sick Physician" set forth a plan of action, which included attention to chemical dependency in medical school, education of spouses, creation of a model law to deal with impaired physicians, and monitoring of peers. The AMA called for an end to the "entrenched conspiracy of silence," and advised physicians to monitor their peers in a "conspiracy of constructive compassion."

"The Sick Physician" is now almost 20 years old, but physician attitudes toward chemical dependency haven't changed all that much, according to Amer. It is still difficult for physicians to acknowledge addiction as anything more than a behavior and to ask for and get help, he says. Physicians are so used to giving advice that they often don't know how to accept it.

Amer was no different. He knew that he was an alcoholic, but he didn't know where to turn for help. He recalls feeling alienated and asking himself, " 'Who can I tell? I can't go to a colleague. I'm medical director at St. Mary's. I'm supposed to be in charge here. How can I tell anybody?' I really thought there was absolutely nobody I could tell. I was supposed to be helping other people. How could anybody help me?”

> “For all other diseases there’s a definite treatment. This is so different.”
>
> *–Gregory Amer, M.D.*

Amer did find help. Out of the blue, as he puts it, he told his wife. Then he called Physicians Serving Physicians (PSP), a group he had heard about through his work. Amer is still impressed with the response to his call for help. Even though it was a holiday weekend, he and his wife were sitting in the PSP office within three hours of his call, mapping out a plan for his recovery.

Physicians Serving Physicians was started about 10 years ago by a group of recovering physicians who understood that someone who has been there is most able to help someone who is currently suffering. It helps, says Amer, “when another physician comes and can share his experiences and sit down and say, ‘I know exactly what you’re going through, I went through the same thing myself.’ ”

Physicians Serving Physicians is a nonprofit group, modeled after similar groups for dentists and lawyers, and except for its executive director, Diane Naas, it is run by volunteers. PSP is not a treatment center. It is a first step, a place where the physician or a concerned friend may reach out for help and get a referral to an appropriate treatment program. In its 10 years, PSP has served nearly 300 physicians throughout Minnesota, said Naas, who is a certified chemical dependency practitioner.

ILLUSTRATION BY LINDA FRICHTEL

Unlike Amer, who called for help, many physicians are brought to PSP by a colleague, spouse, or other concerned individual. The name of the game with addiction is denial and delusion, Naas says, which means that often the only way to get individuals into treatment is to confront them with their addiction. That’s where PSP comes in. Once Naas receives a call for help, she begins a course of action that is geared toward getting the individual into treatment. Typically, she has several meetings with friends and family of the individual to learn as much about the problem as possible. Then an “intervention” is planned.

An intervention is always a “surprise” session in which the individual is confronted with the truth about his or her alcohol or drug use, Naas explains. “The purpose of an intervention is to hold up a mirror to have them see themselves as others see them.” It is a scary process, Naas admits; however, it is also very well-rehearsed to minimize the pain it can cause. Naas meets with the individuals who will take part in the intervention at least once, and often more, to practice what they will say. Children, spouses, recovering physicians, and colleagues often are present. Naas is always there and is usually the only one who needs an introduction. “We want people there who are caring and concerned, and we don’t want people there who are judgmental,” she says.

Interventions take place in clinics, hospitals, conference rooms, and homes—rarely in PSP’s Edina office. They are aimed at getting the individual to start treatment immediately. To ward off resistance, PSP arranges for the physician’s absence. Plans are made to cover everything from patient appointments and speaking engagements to vacations and family outings.

PSP treatment recommendations are always individualized, says Amer, who is a PSP board member and heads the group’s public relations efforts. Some physicians are referred to Alcoholics Anonymous, but more often, referral is made to an inpatient treatment program because many of these patients have other medical problems as well.

Whatever the treatment setting, chemical dependency is almost always treated as a disease. The AMA recognized alcoholism as a disease in the late ’50s and more recently recognized drug addiction as a disease. This “disease concept” asserts that the disorders cease to be symptoms of underlying problems once they reach an addictive stage, at which point they must be treated as the primary disorder.

Therefore, addictions are treated just like any other disease, which means they require a diagnosis and a treatment plan. The person is treated as a patient, is evaluated physically, psychologically, and sociologically, and requires a prescription for aftercare, which typically involves an introduction to Alcoholics Anonymous.

As an interesting historical note, this medical model, which is now the prevailing treatment model, was developed in Minnesota at the Hazelden Foundation about 25 years ago and has been replicated nationwide. It is often called the Minnesota model.

Chemical dependency may be regarded as a disease, but it doesn't behave much like other illnesses, which means it can confound the best physicians. "It's a chronic, incurable illness. Once you're chemically dependent, you're always chemically dependent," Amer says. There's no cure for the disease, only recovery.

Doctors, says Amer, don't like that. "I think that doctors still don't like chemical dependency. They don't like to think about it. They don't like to put it in the differential diagnosis when they're seeing a patient. They don't know what to do with it," he says. "I still think that most people, most doctors included, think of alcoholism and chemical dependency as a behavior rather than a disease and think deep down inside that these people should just stop doing that behavior. They should just clean up their act and change their behavior. But that's not true. It's a disease."

Unlike other diseases, there are no pills to make it better. "For all other diseases there's a definite treatment. This is so different," Amer says. Chemical dependency "involves concepts of spirituality, out of the normal realm of medicine. It involves a surrender to a higher power."

> "I was treating patients with alcoholism at the same time that my own disease of alcoholism was getting worse and worse and worse."
>
> *–Gregory Amer, M.D.*

In fact, the first of the 12 steps of Alcoholics Anonymous is an admission that the individual is powerless over alcohol and that his or her life has become unmanageable. The second step is accepting "that a power greater than ourselves could restore us to sanity." But this notion of surrender to a higher power goes against the scientific grain. Physicians, as Amer puts it, tend to be cookbookish and want to follow the rules that say "Do this, and the patient will get better."

Amer is only too aware of the frustration that many doctors feel treating addiction. "I'm the medical director here, and I have a lot of patients, but I can't get these people better. I can just open up a few doors and show them a few lights, but it really involves a spiritual conversion in order to recover."

This frustration with addiction often leads physicians to offer gratuitous advice to patients. They'll tell a patient with an enlarged liver to cut down on his drinking, says Amer, "not understanding that the person absolutely can't do that."

The physician also has trouble helping himself. Even Amer, an expert on addiction, was able to deny his own problem for a long time. "Physicians are . . . such controlled people," Amer says, that they believe they should be able to control their drinking or drug addiction. "But that's ridiculous, because then you start denying the problems."

Fortunately, Amer's drinking never interfered with his work. He did not drink while he was working, and he acknowledged the problem before it overwhelmed every aspect of his life. Not everyone is so lucky. Some don't get help before their addiction causes trouble. At any given time, for example, the Board of Medical Examiners (BME) is monitoring 35 to 40 physicians whose chemical dependency has affected their medical practices.

The Board of Medical Examiners was created more than 100 years ago to protect the public at the front end by refusing to license unqualified practitioners, according to H. Leonard Boche, the board's executive director. But over the years, standardized national exams preempted the board's role, and the BME's emphasis has changed. Today, says Boche, "we are more concerned about the practice of medicine once the license has been granted."

Depending on whom you ask, the board is either too lenient or too strict. The public thinks the board is too lenient, says Boche, but the physician community thinks it's too tough. "We figure we're in the right place."

Typically, addicted physicians who come before the board are given the chance to enter a treatment program in exchange for keeping their licenses. After completing a recovery program, physicians are allowed to return to

Call PSP for help

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It's difficult for chemically dependent physicians to take that first step and ask for help, but once they do, their chances for recovery are great. Physicians in Minnesota may take extra comfort in knowing that there is an organization just for them. Their first step can be made easier by calling Physicians Serving Physicians (PSP). All calls are confidential and there is no charge for PSP services.

Concerned spouses, children, and colleagues also may turn to PSP for help, because as PSP Executive Director Diane Naas says, "Chemical dependency affects everyone."

PSP is a voluntary organization of recovering physicians who want to help physicians still struggling with addiction. It serves physicians throughout Minnesota, and Naas says she "will go to the far corners of the state to help."

But help can't start without a call. If there's one message Naas wants people to hear, it is this: "Please call to get information and help."

The PSP number is 612/920-5582.

practice, provided they agree to adhere to an aftercare plan, which often includes submitting to random blood or urine tests and regularly attending AA or another support group. But every year, about two to three physicians fail to comply with orders and lose their licenses.

Those numbers indicate the board's not doing its job, according to a report in the Twin Cities *Star Tribune* last fall, which criticized the board for being too lenient and cited several cases in which addicted physicians continued to practice, despite repeated appearances before the board. An accompanying editorial called on the board to revoke the licenses of repeat offenders.

The board has no plans to change the way it deals with individuals, Boche said, although it did accept some of the criticism leveled by the newspaper and plans to add a staff person whose sole responsibility will be monitoring physicians.

In the aftermath of the *Star Tribune* report, Paul S. Sanders, M.D., chief executive officer of the Minnesota Medical Association, defended the BME by arguing that what some people perceive to be leniency is a deliberate approach to encourage more doctors to come forward and seek treatment.

There's good news for physicians who do get treatment: They do very well in recovery. In 1984, a Mayo Clinic study reported that the prognosis for physicians treated for chemical dependence is very good—better than it is for the general population. Previous studies already had shown that physicians have a favorable recovery rate, but this was the first to compare physicians with the general population, said the Mayo study's principal investigator, Robert Morse, M.D.

"Everyone who's tried to study this has demonstrated that physicians have a very favorable outcome," said Morse, who is a psychiatrist and director of the addictive disorders services at Mayo.

Morse's study found that one to five years after treatment, 83 percent of physicians were still sober, compared with 62 percent of the general population. Morse speculates that the good prognosis has nothing to do with education or basic intelligence and everything to do with the fact that physicians work in a structured monitoring system.

Amer believes physicians do well in recovery because they typically do well at whatever they put their minds to. "Physicians tend to be excited about the recovery," Amer says. "They decide, 'I'm going to go into AA twice a week for the rest of my life,' and they do it. They are very good at patience, compulsion, and following orders. But they have to make that first step. And that's what's really difficult for them—to actually admit to themselves and other people that 'my life is unmanageable, and I'm powerless.' It's so hard for them to do that." MM

Miriam Feldman is a Minneapolis free-lance writer and a frequent contributor to Minnesota Medicine.

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A 10-Year Report of Patients in a Prolonged Respiratory Care Unit

Frank J. Indihar, M.D., F.A.C.P.

ABSTRACT

The author statistically analyzes 542 patients who were hospitalized in the Prolonged Respiratory Care Unit of Bethesda Lutheran Medical Center in St. Paul, Minnesota, between 1979 and 1989. A demographic description of the patients, an analysis of discharge status, and a discussion of reimbursement for care are presented. It is apparent from this analysis that: 1) there is a large number of patients who will require chronic ventilator support, 2) weaning of "unweanable" patients can occur in selected cases and can be most expeditiously accomplished in specialized units, 3) these specialized units are cost effective, and early transfer from the DRG-reimbursed ICUs would benefit not only the patient but also the reimbursing agent and referral hospital, 4) specialized, adequately funded centers for unweanable patients need to be developed, and 5) further studies and education concerning the imprudent use of ventilators must be implemented by the appropriate physician organizations.

The Prolonged Respiratory Care Unit (PRCU) of Bethesda Lutheran Medical Center, a HealthEast hospital in St. Paul, Minnesota, was organized in 1979 to care for patients with chronic ventilator dependency.[1,2] Currently, the unit comprises 50 beds in a DRG-exempt, long-term, acute care hospital. Data are presented for the 542 patients who were hospitalized at the unit from its inception, in September 1979, through December 1989.

PRCU Patient Demographics

In the decade 1979 through 1989, the PRCU admitted 542 patients, 253 men and 289 women. Ventilator patients accounted for about half the total admissions. Most patients were between 50 and 80 years old. Most were cigarette smokers, with a mean pack year history of 60.3 on admission. About one-half were married.

There were 10 major diagnostic categories (Table 1). Chronic obstructive pulmonary disease accounted for 67.1% of the patient population. Diseases of the central nervous system, infectious diseases, and restrictive lung diseases totalled about 18%.

Sixty percent of applicants were accepted to the PRCU. Reasons for nonadmission included death, patient instability, staffing inequities, patient mix inequities, and financial reimbursement difficulties. Admitted patients fell into three major groups: 1) ventilator-dependent patients, 2) weanable rehabilitation patients, and 3) ventilator-dependent domiciliary patients. Evidence of prior weaning failures was required for patients to be considered ventilator dependent. Further, if patients were admitted as ventilator dependent, it was requested that they have a tracheostomy before the transfer. The rehabilitation category was reserved for those patients who were tracheostomized or, if nontracheostomized, required further hospitalization and rehabilitation following an acute hospitalization.

The Prolonged Respiratory Care Unit has developed an aggressive rehabilitation program involving a multidisciplinary approach of nursing, respiratory therapy, physical therapy, occupational therapy, recreational therapy, chaplaincy, social service, and diet and nutrition counseling. Many unweanable patients are accepted to the unit, depending on the unit's patient mix and reimbursement options.

An analysis of length of stay was also completed, including a review of length of time patients were previously ventilated at other institutions, the length of stay at those institutions, and the length of stay at the PRCU. Patients were ventilated for a mean of 54.5 days and a median of 36 days at other institutions before they were admitted to the PRCU. The mean prior institutional length of stay was 45.42 days, and the mean PRCU length of stay was 98.73 days (Table 2).

Patient Care and Outcome Statistics

Complications

There were no tracheoesophageal fistulae. About 18% of the patients had significant depression requiring medication. Two percent of the total patients had ileus, and a gastrostomy was performed in 7%. Of the ventilated patients, 19% had a gastrostomy. Pneumonia was prevalent in 118 patients, 62 of whom had pneumonia on admission. Fifty-six of all PRCU patients (10.3%) developed pneumonia during that hospitaliza-

Table 1

Percent of diagnosis by respiratory category at admission (806 patients)

Diagnosis category	Percent of total
COPD	67.1
Restrictive lung diseases	5.0
Central hypoventilation syndromes	3.6
Diseases of brain and spinal cord	6.6
Polyneuropathies	3.2
Muscular dystrophy and polymyopathy	1.1
Chest wall diseases	1.2
Infectious diseases	6.8
Other	2.7
Cancer	.7
TOTAL	100.0

Table 2

Length of stay comparisons

Location	Mean (Days)	Number	Median (Days)	Minimum (Days)	Maximum (Days)
PLOS*	45.42	301	25.00	1.000	967.0
PRCU**	98.73	301	45.00	1.000	1.260E+03

*Prior institutional length of stay

*PRCU length of stay (patients from home admissions deleted)

Table 3

Organism VS incidence of pneumonia

Organism	Number of Patients
Staph	15
Pseudomonas	40
Serratia	6
Proteus	2
Klebsiella	12
Nelsseria	2
Candida	1
Strep	5
Cocci	1
E. Coli	2
Influenza	1
TOTAL	87

tion. The most common pneumonia, Pseudomonas, accounted for 40 cases. Staphylococcus pneumonia was second, and Klebsiella third (Table 3).

Other organisms were present but contributed less to the pneumonic occurrence. During the 10-year study period, Gentamycin was the most frequently used antibiotic followed by Ampicillin and Tobramycin. Ciprofloxacin was used more frequently in the last year.

Weaning statistics

In all, 171 patients, 92 women and 79 men, were ventilated on admission to the unit; 58 of these patients (34%) were weaned from the ventilator. One-third of the ventilated patients died, while another one-third remained on the ventilator. Twenty-four of the male patients (30%) were weaned as were 34 of the female patients (37%).

A number of factors were analyzed to determine if they were predictors for weaning success. All ages were weanable in proportion to the number of patients in each age category. Diagnosis was also investigated but was not found to be a clear predictor of weaning (Table 4), with approximately 33.7% to 60% of patients weaned from each diagnostic category. Patients with spinal cord injuries and high cervical fractures had the lowest percentage of weaning. Weaning statistics improved as the staff's experience grew (Table 5). It took an average 39.2 days to wean a patient from the ventilator, with a minimum of two days, a maximum of 185 days, and a median of 24.5 days.

Discharge status

Of the patients hospitalized, 30% were discharged home, 23% required acute hospitalization, 13% were eventually hospitalized in a skilled nursing facility, and 32% died (Table 6). Of the ventilated patients, 21.7% were discharged home, 22.2% required rehospitalization in an acute care unit, 15.8% required hospitalization in a skilled nursing facility when they were available for ventilated patients, and 40% of the patients died (Table 7). Approximately 60% of the patients admitted to the unit were eventually considered unweanable.

Cost Analysis

A recently published PRCU study compared costs of chronic ventilator care in six care settings in the Twin Cities area: an intensive care unit, the PRCU of HealthEast/Bethesda Hospital, a group home for ventilator patients, and three home care options. The study notes that the care of chronic ventilator-dependent patients is much lower in specialized units such as the PRCU than in intensive care units. Two corollaries to this conclusion were drawn: Patients should be transferred to specialized units as soon as possible when it becomes apparent ventilation will last more than a few days, and additional specialized units for ventilator-dependent patients need to be formed in centers across the United States.

Additional conclusions drawn from the study were that home care is not always particularly cost effective when compared with other forms of institutional care and, for certain patients, group homes may provide a cost-effective and humanized source of care.[3]

Discussion

About 40% of applicants for Prolonged Respiratory Care Unit admission are not accepted. Many of the patients die before the application process is completed. Also, patients must be stable upon admission to the PRCU; a patient with active infectious processes, cardiovascular instability, or other fatal organ system diseases is ineligible for admission. The PRCU staff is made up of an unusual mix of respiratory therapists and nurses who are selected not only for their technical expertise, but also for their willingness and ability to care for chronically ill patients. A particular patient mix is also sought and analyzed daily; admissions are

Table 4

Percent weaned by diagnosis category

Diagnosis	Number of Patients	Number Weaned	Percent Weaned
COPD	98	33	33.7
Restrictive lung diseases	9	3	33.3
Central hypoventilation syndromes	5	2	40.0
Diseases of brain and spinal cord	23	4	17.4
Polyneuropathies	15	4	26.6
Muscular dystrophy and polymyopathy	2	1	50.0
Chest wall diseases	4	2	50.0
Infectious diseases	5	3	60.0
Other	7	3	42.9
Cancer	3	3	100.0
TOTAL	171	58	

Table 5

Total ventilator patients weaned by year

Year	Number of Patients	Percent Weaned by Year
1980	1	14.3
1981	1	16.7
1982	0	0.0
1983	1	20.0
1984	8	36.0
1985	12	36.0
1986	15	53.6
1987	6	28.6
1988	11	47.8

Table 6

Outcome data (discharge status)

Discharge Status	Number of Patients	Percent
Home	157	30
Acute care	123	23
Skilled nursing facility	68	13
Died	166	32
TOTAL	514	98

Table 7

PRCU ventilated patient outcomes

Outcome	Number of Patients	Percent
Home	37	21.7
Acute care	38	22.2
Skilled nursing facility	27	15.8
Died	69	40.4

adjusted to each of the categories as openings occur and as bed capacity expands.

We have found that patients are often retained in their referring institutions for an excessive period of time, oftentimes exceeding the DRG payment limitations for patients with the primary diagnosis of chronic obstructive pulmonary disease. The reasons for the slow referral pattern for these patients are not well-understood, but various factors likely play a role, including the physician's unwillingness to transfer the patient, the physician's constant hope that weaning will occur shortly, the family's unwillingness to change hospitals and locations, and the physician's desire to retain control of the patient's destiny. Also, it is likely that physicians are unaware of the costs these patients generate while they are hospitalized in an intensive care unit.

A review of our outcome statistics, as indicated previously, has thus far not yielded any significant correlation between weaning success and various forms of clinical patient characteristics. The statistics seem to indicate that weaning of difficult patients is best accomplished in specialized units where the staff's expertise can be developed over time.

An ongoing survey will be necessary to assess which patient characteristics are correlated with weaning success. However, it would seem most prudent for physicians to reserve the use of ventilators for patients whose quality of life may be ultimately enhanced by the use of a ventilator. Although the rationing of medical technology is an abhorrent concept, the imprudent use of ventilators on all patients, regardless of their possible quality of life, should be considered carefully. Ongoing discussions in medical schools and medical ethics committees, as well as an educational process involving physicians and other medical staff members, must occur to prevent the squandering of already limited resources.

Reimbursement for the care of this group of patients has been difficult to obtain. With the inception of a diagnosis-related grouping reimbursement scheme, the excessive costs for prolonged ventilator care have not been reimbursable to the hospitals that, as a community service, care for these patients. Various modes of reimbursement have been sought by the Prolonged Respiratory Care Unit of Bethesda Lutheran Medical Center/HealthEast, but an adequate payment schedule has not yet been devised. At this time, the entire hospital, because of its unusual position as a separate campus in a consortium of local hospitals, has been designated as an acute care, long-term hospital; the PRCU is one of the units in this separate hospital campus. The Health Care Financing Administration (HCFA) is currently initiating a demonstration project that the federal catastrophic health bill mandated to determine if this type of unit is needed and whether the care provided in this setting is both more effective and more *cost* effective than that provided in an ICU.

Regardless of the HCFA demonstration project's outcome, it should be apparent that one-third of the patients who are ventilated will require continuous ventilation. Thus far, *no* reimbursement is available for these patients. Adequate nursing home funding is one option; at this time, however, no incentive is provided to nursing homes to provide ventilator care, which is extremely expensive as well as staff- and equipment-intensive.

Although many correlative conclusions can be garnered from the data presented here, several conceptual conclusions can also be drawn. First, it is apparent that there is a large group of patients who require chronic ventilator support and prolonged attempts at weaning. Second, weaning of "unweanable" patients can occur in selected cases. Third, specialized units are cost effective, and early transfer from DRG-reimbursed hospitals' intensive care units would benefit not only the patient but also the reimbursing agent and the referring hospital. Fourth, specialized, adequately funded centers for the unweanable patient need to be developed; our statistical research suggests this group of patients will continue to grow. Fifth, further studies and education concerning the imprudent use of ventilators must be emphasized by professional associations and specialty groups. MM

Frank Indihar is the medical director of the Prolonged Respiratory Care Unit, Bethesda Lutheran Medical Center/HealthEast, St. Paul, Minnesota, and is a clinical associate professor at the University of Minnesota Medical School in Minneapolis.

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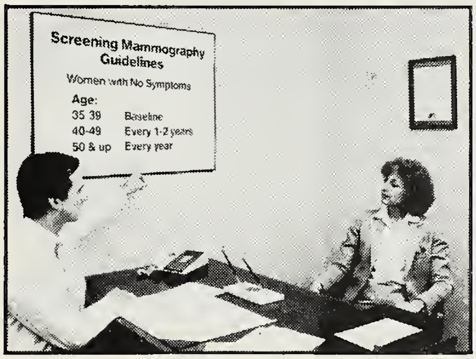

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The Successful Treatment of Psychogenic Polydipsia and Water Intoxication with Propanolol

A Case Report

Mitchell B. Goldstein, M.D., and Thomas Folsom, M.D.

ABSTRACT

Psychogenic polydipsia (PPD), which can lead to water intoxication (WI), is a problem with many psychiatric patients. The case history of one schizophrenic patient presented here shows that propanolol therapy can reduce PPD and WI, possibly decrease thirst, and improve schizophrenic symptoms and behavior. When combined with regular weight evaluation and behavioral treatment to restrict water intake, the therapy can further reduce the risk of developing life-threatening WI complications.

Psychogenic polydipsia (PPD) is a term describing excessive fluid intake due to psychological factors. Psychological and organic factors need to be considered in the evaluation of this behavior. Criteria for polydipsia include urinary specific gravity less than 1.009 and daily urinary volumes greater than 2,600 mL for men and 2,200 mL for women.[1] PPD can lead to water intoxication (WI), which is caused by excess water ingestion in amounts greater than the body can excrete. Symptoms of WI may include headache, anorexia, blurred vision, confusion, aphasia, delirium, restlessness, polyuria, frequent urination, diarrhea, salivation, nausea, retching, vomiting, muscle tremor and twitching, muscle weakness, ataxia, irritability, and personality change.[2-4] Additionally, severe complications due to WI have been observed, including rhabdomyolysis, hypocalcemia, gastrointestinal and bladder dilatation and hypotonicity, hydronephrosis, renal failure, and congestive heart failure.[1,5-7] Enuresis is also a common concomitant of WI. As these complications imply, WI can be a serious disorder.

The most probable cause of WI in psychiatric patients is PPD, which has been observed in a significant percentage of patients in state institutions. There are a number of possible reasons for these patients' excessive fluid intake. In some instances, the treatment for psychiatric diagnosis may actually cause WI, and the PPD episodes may disappear if a certain treatment regimen is decreased or eliminated. Medications such as carbamazepine may affect the release of antidiuretic hormone (ADH).[8-12] An increase in ADH release results in less urine production and more water reabsorption. Studies have shown that lithium carbonate reduces the body's ability to concentrate urine, and thus, causes WI.[13] Diuretic agents, such as hydrochlorothiazide and phenytoin sodium, may decrease the kidney's ability to excrete free water,[2,4,7] which would result in excess water reabsorption. The syndrome of inappropriate antidiuretic hormone secretion (SIADH), associated with antipsychotics such as haloperidol, thioridazine, and fluphenazine, also results in increased water reabsorption.[14] However, one report indicates that SIADH may directly cause increased water drinking, resulting in WI.[15] Understanding these medications and their mechanisms of action can result in effective treatment of many WI and PPD cases.

Propanolol has been relatively successful in treating PPD in schizophrenic patients.[16,17] It may act by inhibiting renin release, which would reduce the cumulative amount of angiotensin II produced. This would eventually decrease the secretion of aldosterone, and, therefore, prompt excretion of free water.[16] Because propanolol is a beta blocker, it would most likely act centrally, thereby reducing thirst via a central mechanism.[17] Additionally, since propanolol has also been found to be a useful adjunct in treating schizophrenia, it may decrease psychotic symptoms as well as thirst. The case history we present in this paper describes PPD episodes in a schizophrenic patient and demonstrates that propanolol can reduce PPD and WI episodes, possibly decrease thirst, and improve schizophrenic symptoms and behavior.

Materials and Methods

The patient, a 26-year-old white man, has an eight-year history of chronic schizophrenia. Although his initial symptoms occurred while he was using "marijuana laced with PCP," the symptoms have persisted for years after he stopped using drugs. The patient experiences auditory and visual hallucinations, often related to excessive water intake. When water intoxicated, the patient also demonstrates agitation, threatening and assaultive behavior, and self injury—he has burnt himself with cigarettes and has cut himself superficially. The patient's excessive water drinking was first observed in 1988. It is possible that he experienced PPD prior to 1988, but no documentation in his charts suggests it.

When attempting to prevent WI, certain symptoms should be monitored. Rapid weight gain is one symptom to watch.[18,19] Some PPD patients have also developed hypothermia and have tended to seek warmth.[20] To prevent aggressive behavior in the patient described in this report, seclusion was generally instituted after a 4-lb weight gain from his morning post-voiding weight.

The patient's WI persisted during treatment with Xanax, 0.5 mg q.i.d.; Benadryl, 50 mg q.i.d.; Navane, 15 mg q.i.d.; and Vistaril, 100 mg p.r.n. A one-month trial of lithium to reduce PPD incidents also proved ineffective. When the patient showed no improvement after Vistaril was discontinued, propanolol was added and increased to 30 mg po q.i.d.

Results

The patient showed dramatic improvement after the propanolol treatment began. Before the therapy, the patient was secluded an average of seven times per week. During episodes when the patient gained from 4 lbs to 13 lbs in one day, urine-specific gravities averaged 1.004 and were sometimes down to 1.000. After the propanolol dose reached 80 mg per day, the number of seclusions decreased to an average two times per week. When the dose was increased to 120 mg per day, the number of seclusions decreased to an average one time per week. The patient's behavior and attitude also changed dramatically. He became less aggressive and demonstrated less self injury. The patient's sense of humor greatly improved, and he was more cooperative during interactions with others. Before the propanolol treatment began, the patient was observed to roll his eyes back immediately before an aggressive episode; this did not occur once propanolol treatment began.

Discussion

This case demonstrates that propanolol administration can improve PPD and WI. The combination of propanolol therapy, regular weight evaluation, and behavioral treatment designed to restrict water intake after a 4-lb increase reduced this patient's risk of developing life-threatening WI complications.

The majority of patients with PPD described in the recent literature have been diagnosed with schizophrenia. It is not clear whether the excess water ingestion causes the psychotic symptoms or vice versa. Some patients have reported that auditory hallucinations tell them to drink fluids.[21] One article concludes that the psychosis stimulates arginine vasopressin (AVP) release, which in turn stimulates excessive water drinking.[7] Another suggests that the mechanism regulating ADH secretion might be impaired in schizophrenic patients with PPD.[22] An increase in AVP results in a direct increase in water ingestion. Conversely, an increased secretion of ADH causes increased water reabsorption. Both conditions are associated with excess body fluid, which dilutes the electrolytes within the extracellular fluid and results in a hyposmolality that influences the body's physiology.

Before PPD treatment begins, diabetes insipidus (DI) and SIADH must be ruled out. DI is similar to PPD; both have a high volume of fluid ingestion, high urine output, and low urine osmolality. DI is distinguished by high serum sodium, osmolality, and BUN, all of which are low in PPD patients.[3] SIADH is similar to PPD in that serum sodium, osmolality, and BUN are low. However, the excess extracellular fluid that occurs in SIADH is due to increased renal water reabsorption, whereas the cause of WI is excessive fluid intake. Consequently, a SIADH patient's urine will be concentrated, while a PPD patient's will be diluted.

To date, reliably successful treatment for PPD remains elusive. Behavioral therapy and pharmacotherapy have been investigated as possible PPD and WI treatments. Attempts to reduce fluid ingestion gradually by maintaining predetermined times and places for drinking led to positive results in one nonpsychiatric patient.[23] The patient also reported a decrease in thirst during a three-month follow-up evaluation.

Nevertheless, drug therapy seems more appropriate in psychiatric patients, especially those with schizophrenia. Demeclocycline has been successful in treating PPD,[12,24,25] despite a few incidents of polydipsia recurrence.[16,26] Two different mechanisms have been proposed for demeclocycline. The first involves inhibition of ADH action at the renal tubule,[25] which reduces water retention in the kidney and maintains fluid excretion. The second suggests a decrease in dopaminergic supersensitivity,[24] which interferes with dopamine's known ability to stimulate thirst and ADH release.

Lithium has also been used to treat PPD[1] by inhibiting arginine vasopressin (AVP) action at the distal renal tubules and collecting ducts. High AVP levels have been observed in several patients with self-induced WI, although no direct correlation has been established. In addition, AVP may increase the sensation of thirst. Therefore, by inhibiting AVP, lithium would theoretically decrease PPD.

In one study comparing the combined administration of lithium and phenytoin (Li-P) with lithium treatment alone, the Li-P combination showed better results.[27] Both lithium and phenytoin are AVP antagonists and were shown to increase serum sodium. Although this combination proved effective, PPD recurred within two to three weeks when phenytoin was discontinued and lithium was used alone.[27]

Captopril is another drug tested for treatment.[16,28] Results suggest that blocking angiotensin I converting enzyme with captopril increases diuresis. Increased free-water excretion improves hyponatremia and its attendant symptoms, and the dilutional hyponatremia resolves, along with other symptoms due to PPD and WI.

Previous studies indicate that propanolol at doses from 160 mg to 1 g per day can reduce excessive, self-induced water ingestion.[16,17] The case we present is unique because dramatic improvement occurred with a low dose of propanolol—80-120 mg per day. Although the results are encouraging, it is important to note that propanolol was an adjunct—the patient also received 60 mg of Navane per day. There are no reports to suggest that propanolol produces this decreased drinking behavior as a single agent. Studies indicate that PPD episodes decrease when the dosage of antipsychotic medication is increased.[7] Thus, it might be interesting to test propanolol in conjunction with increasing doses of antipsychotic medications.

Past attempts to treat WI also include administration of hypersaline solution.[2] The results show improvement in hyponatremia, but the improvement is usually temporary. The combination of propanolol therapy and hypersaline may provide significant results. Propanolol would help reduce psychotic symptoms and PPD, while the hypersaline would directly improve hyponatremia. (Propanolol's mechanism of action is described in the introductory paragraphs on page 29.)

In the case we describe, the patient's personality change and improved psychotic symptoms suggest that propanolol may have influenced not only PPD, but also psychotic symptoms. The patient continued to admit to auditory hallucinations, but less frequently. Since his treatment with propanolol, the patient has at times noted that his "hallucinations" are actually his own thoughts, and he has participated in conversations that are more reality-oriented. Overall, the progress observed with propanolol treatment was dramatic.

Since the results were promising for this single case study, attempts should be made to further study propanolol with more subjects. A double-blind placebo experiment would answer several important questions. Experiments could compare propanolol in a range of doses as a single agent and with varying doses of antipsychotic medications. Others could include trials of propanolol combined with lithium, propanolol combined with demeclocycline, and demeclocycline combined with phenytoin.

Conclusion

PPD is a problem observed in many psychiatric patients, and it is possible for PPD to result in WI and its attendant symptoms and severe complications. The development of a more consistently successful treatment would greatly improve these patients' lives. This case history demonstrates that propanolol may be effective in treating PPD and WI. More in-depth studies are needed to show whether propanolol is effective as a single agent or as an adjuvant with antipsychotic medications. MM

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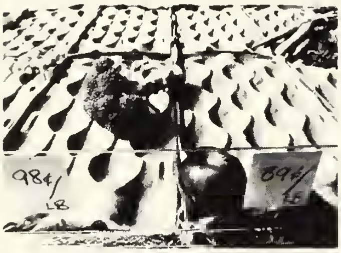

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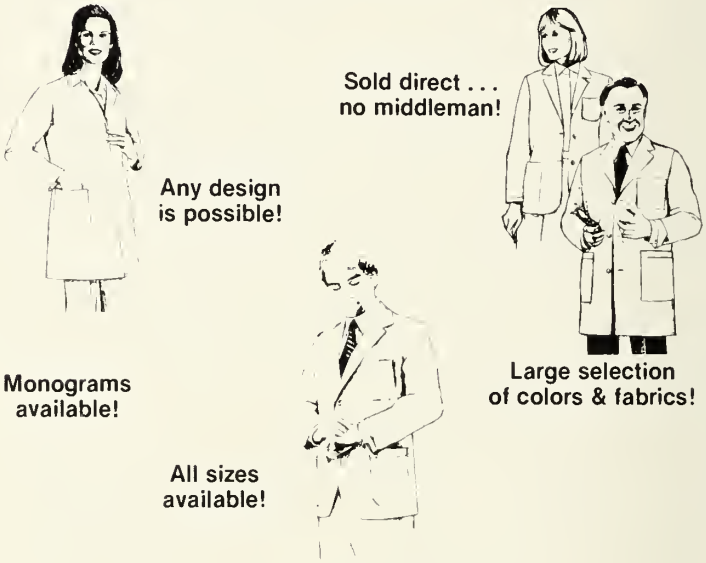
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Right-to-Die Issues in Minnesota

Joan E. Klein, J.D.

Recent advances in medical technology have made it possible "to prolong almost indefinitely the lives of even those patients who are terminally ill for whom there is no hope or cure."[1] "The term 'right to die' is increasingly used both popularly and in legal contexts to apply to an individual's right to refuse medical treatment, the refusal of which will cause her death."[2] The "right to die" refers both to decisions about foregoing and administering treatment—decisions that often raise questions for patients, their families, physicians and other health care professionals, clergy, and the legal system.

Decision Making for Competent Patients

Competent patients' decisions to forego life-sustaining treatment have presented health care professionals and the legal system with very little difficulty.[2] Informed consent is a basic principle whereby physicians provide patients with relevant information about treatment, and then competent patients make their own health care decisions. A competent patient can refuse medical treatment even at the risk of death. For example, even if a basically healthy 30-year-old's refusal of a simple procedure will result in that patient's death, a physician is not free to overrule the patient's request and institute medical treatment. (However, the physician may want to consult legal counsel.)

Decision Making for Incompetent Patients

More difficult are cases that involve patients who clearly lack decision-making capacity or competence. Also troubling are cases that involve patients who have questionable decision-making ability, such as certain elderly or mentally ill people. While virtually all courts agree that an incompetent patient's right to refuse medical treatment is equal to a competent patient's right, the method of making decisions on behalf of an incompetent patient is not always clear.

> "A competent patient can refuse medical treatment even at the risk of death."

The Torres case

Whether or not the probate court had authority to order the discontinuance of medical life-support systems was considered in Minnesota in 1984. In the *Matter of Conservatorship of Torres*, the Minnesota Supreme Court affirmed the probate court's decision to empower a conservator to order that a 57-year-old comatose patient's respirator be disconnected.[3] The Supreme Court held "that if the conservatee's best interests are no longer served by the maintenance of life supports, the probate court may empower the conservator to order their removal, even though there is no specific statutory provision authorizing the Court to do so."[4]

The Supreme Court held that the probate court's authority is based on the Minnesota Constitution and certain statutory provisions, including Minnesota's Patients and Residents of Health Care Facilities Bill of Rights, Minn. Stat. § 144.651 (Supp. 1983). The Patients' Bill of Rights guarantees, among other things, the right of patients to participate in the planning of their health care and the right to refuse treatment. It also provides that a guardian or conservator can enforce these rights on a patient's behalf. Further, "[u]nder Minnesota law, a probate court must act in the 'best interests' of the ward or conservatee in a guardianship proceeding"[1] and "any determination of a conservatee's 'best interests' must involve some consideration of the conservatee's wishes."[5]

The *Torres* decision provided that an individual's right to refuse medical treatment and to forego life-sustaining treatment is based on the right of privacy and the common-law right to be free from invasions of one's bodily integrity. This includes the right to order the disconnection of life-support systems. An individual's right of privacy may be overridden only if the state's interest in doing so is compelling. The state's interest in a patient includes its interest in: "1) the preservation of life, 2) the prevention of suicide, 3) the protection of innocent third parties, and 4) the preservation of the ethical integrity of the medical profession."[6]

The Cruzan and Busalacchi cases

The 1990 U.S. Supreme Court decision regarding the withdrawal of artificial nutrition and hydration equipment (feeding tubes) from Nancy Cruzan, a Missouri woman who was in a persistent vegetative state, is not likely to affect the way right-to-die decisions are made in Minnesota.[7] The Missouri Supreme Court's 1988 *Cruzan* decision prohibited a guardian from terminating medical care. In affirming the Missouri decision, the U.S. Supreme Court ruled that each state can have its own standard for deciding how patients would want certain decisions made on their behalf. It held that under the U.S. Constitution, a state may require (as Missouri does) that an incompetent person's wishes regarding withdrawal of life-sustaining medical treatment be proven by clear and convincing evidence.

The *Cruzan* decision has led Missouri resident Pete Busalacchi to try to transfer his 20-year-old daughter, Christine Busalacchi, from Missouri to Minnesota to have her feeding tube removed if Minnesota physicians determine that she is in a persistent vegetative state. Minnesota law may allow her feeding tube to be removed, whereas Missouri law will not because Ms. Busalacchi had never expressed her wishes concerning the withdrawal or continuation of life-sustaining medical treatment.

In December 1990, Mr. Busalacchi, assisted by Hennepin County Medical Center neurologist Ronald Cranford, made plans to move his daughter to a Minnesota hospital for evaluation by a neurologist specializing in persistent vegetative states. If the neurologist agreed that she was in a persistent vegetative state, it is believed she would be transferred to a hospice, where an ethics committee would review her case. If the committee concluded that the feeding tube should be removed, it is possible that Christine Busalacchi would be allowed to die.

Although a probate court judge had given Mr. Busalacchi permission to move his daughter, the administrator of the Missouri rehabilitation center where Ms. Busalacchi resides is attempting to block the transfer, and in early March a Missouri appeals court ordered a new hearing.

The Wanglie case

Another case involving Minnesota physicians presents the reverse situation. In this case, the hospital, Hennepin County Medical Center, wants to disconnect 87-year-old Helga Wanglie from a life-sustaining respirator, despite her family's objections.[8] The case has gained national attention because it is one of the first where a hospital has sought to discontinue life-support systems against a family's will.

Helga Wanglie has been in a persistent vegetative state since May 1990, and hospital officials have said that her continued treatment is futile and medically irresponsible. Her husband, Oliver Wanglie, a retired lawyer, insists his wife has said that she would want to be kept alive as long as possible if something like this occurred.

> "The method of making decisions on behalf of an incompetent patient is not always clear."

On February 8, 1991, the hospital filed a petition requesting that a conservator be appointed for Helga Wanglie, and Hennepin County District Court is scheduled to consider this case on March 27, 1991. If appointed, the conservator will be responsible for representing Helga Wanglie's best interests, regardless of the hospital's or family's wishes. The court will probably also consider Mrs. Wanglie's alleged statements about her preferences.

Arthur Caplan, director of the Center for Biomedical Ethics at the University of Minnesota, supports the hospital's desire to disconnect the respirator. He has said that when there is no benefit from treatment, it is morally correct to stop it. "The goal of medical care is not to prolong dying....They should not practice according to what patients or families want. They should practice according to what they are able to do."

Oliver Wanglie believes that the hospital is playing God if it shuts off the respirator, but the hospital's ethical consultant assigned to the case presents a different view: "[W]ho is playing God here?... Is it playing God to provide the respirator, or is it playing God to take it off?"

Advance Directives

Minnesota's 'Living Will' Act

Various groups in Minnesota worked several years to get "living will" legislation passed so that competent people could make plans regarding their medical care in the event they later became unable to do so. The Adult Health Care Decisions Act (commonly known as Minnesota's "living will" law), which became effective in August 1989, allows a competent adult to make a legally enforceable declaration that gives health care providers or a designated proxy the power to make health care decisions when the declarant is terminally ill and unable to make those decisions.[9] An individual may include in the declaration the kind of treatment he or she wants or does not want, the circumstances under which treatment decisions should be made, and the setting in which he or she does or does not want to receive treatment.

To be valid, a declaration must be in writing, and the declarant and either two witnesses or a notary public must sign it. Neither the witness nor the notary can be named as proxy. Nor can they be persons who would benefit from the declarant's estate. The declarant may amend or revoke the "living will" at any time and in any manner, and the health care provider must note its revocation in the patient's medical record.

The declarant may designate a proxy to make decisions regarding health care. The proxy must act consistently with the declarant's wishes, or if those wishes are not known, act in that person's best interests. Although the proxy may not be a witness or notary to the declaration, the proxy may be someone who benefits from the declarant's estate. If the declarant appoints a spouse as proxy and later divorces, the proxy appointment is revoked, unless it is specifically renewed.

The declarant can control the health care decisions made on his or her behalf by including in the declaration a list of health care, comfort care, and life-sustaining treatment he or she wants or does not want if he or she becomes terminally ill. The declarant may also explain the circumstances under which the "living will" is to apply and state preferences concerning the location of care.

The declaration may be used to express any thoughts, feelings, and wishes an individual believes are relevant to the health care instructions. It may describe religious beliefs, philosophies, or other personal values and may also state preferences regarding artificial administration of nutrition and hydration, or the decision may be left to a proxy.

The law includes a suggested declaration form, and any declaration that has been executed since August 1, 1989, or in another state must be substantially the same as the sample. A declaration that substantially complies with the sample declaration but was executed before August 1, 1989, is acceptable under the act.

The declaration becomes effective when it is delivered to a health care provider. Individuals should make copies of the declaration and distribute them to every health care provider who has responsibility for their overall health care, e.g., the family physician or internist, and should discuss the declaration with those providers to make sure they will honor it. Health care providers must make the declaration part of the patient's medical record.

Physicians' responsibilities

The physician must still obtain a patient's informed consent whenever possible. If a patient is unable to provide informed consent, the physician must comply with the declaration to the fullest extent possible while following reasonable medical practice and other applicable law.

If the physician is unwilling to comply with the declaration, he or she must notify the patient and document this in the medical record. After receiving such notification, a competent person may seek another physician; the physician does not have a duty to transfer the patient. However, if the physician neglects to notify the patient that he or she is unwilling to comply with the declaration and the patient becomes incompetent or unable to transfer to another provider, the physician is required to take all reasonable steps to transfer the patient's care to a provider who is willing to comply with the declaration.

If the declaration has been delivered to a physician, that physician must make reasonable efforts to ensure that others who care for a patient will honor the declaration. The physician also must make reasonable efforts to deliver the declaration to those individuals required to comply with it.

Finally, nothing in the act impairs or supersedes any patient's existing rights or any provider's legal right or responsibility to begin, continue, withhold, or withdraw health care. This suggests that the act would not preclude the initiation or withdrawal of life-sustaining procedures in situations that fall outside its ambit.

The act only applies under a set of narrow circumstances. When a declaration is made or a proxy is named, families will have more assurance that an individual's health care preferences will be considered if that person becomes terminally ill. The implementation of new federal legislation, the Patient Self-Determination Act, which is discussed below, may have an even greater impact in these situations.

Compliance with the Patient Self-Determination Act

By December 1, 1991, hospitals and other health care providers, including skilled nursing facilities and nursing homes, are required to comply with the Patient Self-Determination Act (PSDA), which was passed as part of last year's federal budget. The PSDA requires health care providers who participate in Medicare or Medicaid to provide written information to patients upon admission describing their rights under state law to accept or refuse medical or surgical treatment and to make advance directives about their medical care. Hospitals must tell patients about their policies for implementing these laws and are also required to provide staff and community education regarding the use of advance directives. (The Minnesota Hospital Association's Minnesota Network of Institutional Ethics Committees intends to develop an information kit and a model policy specific to Minnesota.) As is already required by Minnesota's "living will" law, providers must document in the patient's medical record any advance directives executed by the patient.

While the PSDA may be helpful in some situations, the act does not account for every contingency. "For example, the act explains how to handle situations involving conscious patients who enter the hospital through its regular admitting procedure. However, it doesn't specify how hospitals should advise patients who are unable to receive materials or understand instructions upon admission ..."[10]

It is unclear whether the PSDA will actually decrease the agony health care professionals sometimes experience when dealing with right-to-die issues. For example, there may be some cases in which health care professionals would rather not add to a patient's anxiety by raising the issue of advance directives upon the patient's admission to the hospital. Also, health care professionals and families will continue to be involved in making difficult decisions for children and other patients who have not expressed their opinions on this topic.

The PSDA can be amended between now and the effective date of December 1, 1991. A bill has been introduced in Congress that would exempt skilled nursing facilities and nursing homes from compliance with the act. The bill "also would repeal the mandate that providers educate clients and their employees on advance directives. Instead, the Department of Health and Human Services would handle the educational work. Subject to HHS approval, providers and physicians could cite religious, moral, or ethical considerations in declining to advise patients about advance directives."[11]

Conclusion

This article briefly examines some of Minnesota's right-to-die cases, related statutes, and national trends. The discussion is by no means exhaustive, nor is it meant to leave health care professionals feeling they fully understand the law. Rather, it is intended to provide a road map to help health care professionals understand the structure of legal decision making concerning right-to-die issues in Minnesota and enable them to understand the parameters in which certain treatment decisions must be made. **MM**

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How to Reduce Legal Fees

Leon I. Steinberg, J.D.

Every successful business person strives to control costs. Legal fees should be no exception. With little effort and a few common sense rules, you can control your legal costs.

Select the Right Law Firm

The first and most important step is to make sure you are doing business with the right law firm. Too often clients hire a law firm just because they know one of the lawyers. Although this is fast and easy, it is not smart. You should be concerned with the quality, size, and expertise of the firm.

Select a law firm with the specific expertise or diversity of practice you desire. Make sure the firm is noted for the quality of its work and complies with accepted ethical standards. There are two rating services for law firms that you might want to consult: Martindale-Hubbell and The Bar Register.

If you consult Martindale-Hubbell, select only those firms that have achieved the highest rating, the AV rating. The Bar Register listings are more subjective. These firms are chosen on the basis of recommendations from other leading law firms in the area. All the firms in The Bar Register are AV rated, and the directory is limited to a few firms in each city. However, a law firm not listed in The Bar Register may still be a good firm.

Now consider size. Big often means better, or at least safe. The large law firms usually produce high-quality work and have a broad level of expertise. However, big also can mean expensive.

Large law firms usually charge higher fees per hour and can be less efficient in administering legal matters. Numerous small and medium-sized law firms produce outstanding legal work without the high cost of large firms.

Select the Right Lawyer

It is equally important to select the right lawyer within the firm. Inexperienced lawyers are rarely cost effective because the client must pay hourly fees for the time it takes the lawyer to get up to speed. On the other hand, it may be a waste of your money to go with the most senior lawyer. Seniority usually means higher hourly fees.

> "Select a law firm with the specific expertise or diversity of practice you desire."

While your principal lawyer should have enough experience to take a broad view of your legal needs, choose another lawyer or paralegal to handle routine or specialized matters. Establish a direct line of communication with that lawyer or paralegal. Advise your principal attorney as needed, but there is no reason to involve him or her in every conversation.

Remember, it costs you money when lawyers delegate your work, discuss your case, or review the work product. Many good mid-level lawyers or experienced paralegals can handle routine matters or matters within their areas of expertise with little supervision.

Discuss Fees in Advance

Before dealing with a lawyer for the first time, carefully discuss legal fees. For significant matters, obtain an estimate. Although it is often difficult to estimate fees accurately, lawyers can give you a range on most matters.

Determine how you will be billed, on an hourly basis or a value basis. Value billing is a method of billing that allows a lawyer to charge a fee higher than his or her hourly rate when a particularly favorable result is achieved. Unfortunately, value billing seldom equates to lower fees when an unfavorable result is achieved.

Ask for an itemized bill. The bill should indicate who worked on the matter and also should include an itemized description of the work.

Inquire about hidden expenses. Many law firms charge for items that are not evident on your bill, such as meal costs, word processing fees, and costs for developing legal forms. You should ask your lawyer at the start whether there will be any such hidden costs.

Most law firms have written engagement agreements with clients. If a law firm does not offer you such an agreement, ask for one. No lawyer will refute the value of a written agreement.

Involve Your Lawyer Early

Involve your lawyer early in projects. Preventive law is less expensive than reactive law. Discuss projects with your lawyer to identify potential legal issues before they become reality. A good lawyer should be part of your management team. You should consult the lawyer on major issues ahead of time, not after a problem occurs.

Prepare for Meetings

Before you meet with your lawyer to discuss a matter, carefully prepare for that meeting. Gather all relevant

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information. Summarize the facts in outline form. Give the lawyer copies of any pertinent documents. The more organized you are, the less time it will take your lawyer to learn the relevant facts. Less time means lower fees.

Make Your Own Revisions

If your lawyer is drafting a document for you, do not call him or her to correct typographical errors or factual issues. Revise the document yourself and send it in or call the lawyer's secretary. Law firms seldom bill for secretarial time. Make sure your lawyer sees the revised document to assure that the changes do not affect the transaction, but do not take his or her time to discuss non-legal issues.

Use Form Documents

If you are in the type of business that has routine transactions, see if you can minimize your lawyer's involvement through form documents. Form documents can be drafted in multiple versions to take into account different factual scenarios. Exhibits and appendices can be added to form documents to accommodate the unique aspects of transactions.

Your objective should be to become so comfortable and familiar with the form documents that it is not necessary for you to consult your lawyer every time the form is used. With complicated transactions, or when you feel the form is outdated, you can attempt to modify the documents and give them to your lawyer for review. It is usually cheaper for a lawyer to review and revise your documentation than to start anew.

Restrict Contact

Do not call your lawyer every time you have a simple question. Simple questions often can wait. It is more cost effective to call with a number of questions at the same time than to call the lawyer on several separate occasions with single questions.

In addition, you should mandate who is authorized to contact your lawyer. Not everyone understands the costs associated with calling a lawyer. Don't let your employees cost you money by unnecessarily contacting your lawyer.

Review Your Bill

When you receive your itemized legal bill, review it carefully. First, make sure the bill is accurate and doesn't contain any charges billed to you by mistake. Second, determine whether your lawyer stayed within the scope of work that was authorized. And third, make sure you are comfortable with the fee.

Ask yourself these questions: Are the legal fees within the scope of the estimate? Are all itemized costs reasonable and related to the matter? Do you understand how you were billed and why? If not, call your law firm's billing office. If the problem cannot be resolved at this level, call your attorney.

Conclusion

Business people should use the same care in selecting their lawyers as they do in selecting other vendors. Legal fees can be minimized by following the few suggestions outlined in this article. **MM**

Leon I. Steinberg is a business attorney with the Minneapolis law firm of Parsinen Bowman & Levy P.A. Mr. Steinberg is also president of Commercial Law Affiliates, a national multi-firm affiliation of business and commercial law firms.

On the Business Side

Minnesota Medicine invites you to submit informational articles on such topics as clinic management, personal and practice-oriented financial management, computer applications, taxes, and human resources laws. We prefer practical articles that include information Minnesota physicians can put to immediate use. Submit "On the Business Side" articles to George Lohmer, chief financial officer, Minnesota Medical Association, 2221 University Avenue SE, Suite 400, Minneapolis, MN 55414.

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A list of non-legal consultants, the MMSC Management Consulting Resource List, is also available. For more information, write to the MMSC staff at 2221 University Avenue S.E., Suite 400, Minneapolis, MN 55414, or call 612-378-0305 or toll-free 1-800-999-1875.

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The Legal Services Resource List, a special service for Minnesota Medical Association members and their clinics, was compiled by the Minnesota Medical Services Corporation, the product and service subsidiary of the MMA. Neither the MMA nor the MMSC endorses these companies or makes judgements regarding their services. Categories of service listed above are not all inclusive; call MMSC for a more complete listing.

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Society Must Help Limit Health Care Costs

Richard B. Tompkins, M.D.

"The public seems to expect the medical care system to bear the costs of society's many problems."

Physicians want to do the most they can for their patients. As a group, physicians agree that no person should be denied access to needed medical care. Our support for universal access has been unwavering.

But while we physicians want to help those in need of medical care, the economic burden of that care weighs unfairly on our shoulders. The public seems to expect the medical care system to bear the consequential costs of society's many problems, such as drug abuse, HIV infection, and violence, to mention just a few. The consequences of domestic and street violence and motor vehicle accidents lead to health care costs that could be significantly reduced if we, as a society, were more willing to deal with the problems' causes rather than their effects.

The MMA consistently supports laws that restrict tobacco use and promote safety measures, such as seat belt and motorcycle helmet laws. To fight drug abuse, teams of MMA physicians and state lawyers are going into junior high classrooms throughout the state to discuss the consequences of drug abuse.

Defensive medicine, practiced in response to our unreasonable malpractice climate, comprises an estimated 6 percent to 8 percent of medical costs. Significant tort reform could go a long way toward controlling this unnecessary expense. In Congress, Sen. Orrin Hatch, R-Utah, has introduced a liability reform bill (S.489), which organized medicine strongly supports. The legislation would greatly reduce the need to practice defensive medicine. Tort reform could also reduce malpractice premiums and could improve availability of care in underserved areas.

In considering the high cost of medical care, people tend to blame physicians' fees and high technology while overlooking the actual cost of providing care. Clinic expenses average almost 57 percent of physicians' charges. These expenses include supplies, office equipment, and professional liability premiums. They do not include physicians' salaries. To preserve access to medical care, the state must ensure that reimbursement for current programs such as Medical Assistance covers the actual cost of providing care plus physicians' salaries. Currently, MA rates are only 59 percent of charges.

Particularly in rural communities, inadequate reimbursement has forced physicians to discontinue certain procedures—or even to leave their practices. In an attempt to cover physicians' costs and salaries more adequately, the government has instituted the RBRVS fee schedule for Medicare reimbursement. By providing more equitable reimbursement, the RBRVS will help keep rural physicians in business, guaranteeing that patients will have access to needed Medicare services. While methodological problems remain, organized medicine agrees that the RBRVS forms a reasonable fee base.

In OBRA-'89, the government also adopted methods of controlling the volume of Medicare services provided, although the details of this cost-control measure have not been completely worked out.

Physicians also have some direct control over volume of services and are developing practice guidelines to help ensure that only appropriate procedures are performed. Most specialty societies have made strong commitments to the development of guidelines, and the MMA has been an active participant in the Minnesota Clinical Comparison and Assessment Project (see President's Letter, June 1990, *Minnesota Medicine)*.

Although measures to control volume have been adopted, society has not found adequate means of controlling patient demand. Experience has shown that when cost is not an issue, patients want the most and the best medical care available. Physicians should not be blamed for these demands and the associated costs.

Research shows that co-pays are effective in curbing demand by discouraging unnecessary medical care. But these same limits bar the poor from needed care. The MMA Medical Benefits Task Force carefully evaluated which medical services should be subject to restrictions and announced its recommendations in its final report, published in the March 1991 issue of *Minnesota Medicine.*

Physicians firmly believe in universal access to health care, and they are doing their part to make it possible. But society must successfully limit medical costs before universal access can be achieved. MM

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People and Places Making Medical News

People

Public Health Dean

The University of Minnesota named Stephen Joseph dean of the School of Public Health. Joseph, formerly New York City's health commissioner, is scheduled to begin July 1. He succeeds Robert Kane, M.D., who resigned as dean to take the school's chair in long-term care and aging.

United HealthCare CEO

William W. McGuire, M.D., became chief executive officer of United HealthCare Corporation February 12. McGuire, who succeeds Kennett L. Simmons, has served as UHC's president since November 1989, chief operating officer since May 1989, and as a director since February 1989. Simmons will remain as UHC's chairman.

Medtronic CEO

Medtronic announced March 7 that its board of directors elected William W. George president and chief executive officer effective May 1. George, currently president and chief operating officer, will assume executive responsibilities now held by Chairman and CEO Winston R. Wallin, who will retire from the company on September 1. After that date, Wallin will continue as a director of the company and chairman of the board.

Glen D. Nelson, M.D., vice chairman since 1986, will continue to direct the company's science and technology, strategic planning, business development, and new business ventures.

Riverside Medical Center CEO

Riverside Medical Center named Richard H. Peterson chief executive officer effective May 1. Active in Twin Cities hospital administration for 20 years, Peterson has been executive vice president and chief operating officer of North Memorial Medical Center since 1982.

United Chief of Staff

St. Paul's United Hospital elected Gordon L. Addington, M.D., chief of the medical and dental staff. Addington, who has been with United Hospital since 1974, was most recently medical director for family practice surgical education, medical adviser for oncology continuing medical education, and surgical physician outreach coordinator.

St. Paul Children's Medical Director

Children's Hospital of St. Paul appointed Paul Kubic, M.D., medical director of pulmonology. Kubic, who has been a pediatrician at Children's Hospital for 12 years, has developed the hospital's pulmonology program and directed other programs such as ambulatory care, pediatric pulmonology, and respiratory therapy. He is also associate director of the Children's Hospital Clinic.

HealthEast Chiefs of Staff

The professional staffs of HealthEast recently elected five medical chiefs. Allan McCamy, M.D., a family practitioner, is now president of the system's professional unit, a collective of 900 physicians. The other new chiefs of staff are pulmonary medicine physician David Bonham, M.D., HealthEast Divine Redeemer Memorial Hospital, South St. Paul; surgeon Brooks Butler, M.D., HealthEast Midway Hospital, St. Paul; family physician Thomas Haas, M.D., HealthEast St. John's Hospital, Maplewood; and pathologist Kevin Lawler, M.D., HealthEast St. Joseph's Hospital, St. Paul.

Lakeview Memorial Director

Paul M. Spilseth, M.D., M.S., has been named medical director of Lakeview Memorial Hospital in Stillwater, Minnesota. In his new role, Spilseth will work closely with physicians and hospital administration to enhance communications and coordinate a quality improvement program for the medical staff.

Mayo Board of Trustees

The Mayo Foundation Board of Trustees announced three new appointments at its annual meeting February 15 in Jacksonville, Florida. The new board members are Lilyan H. Affinito, former president and chief operating officer of the Maxxam Group, Inc. (Simplicity Pattern Co.); Donald M. Stewart, Ph.D., president of The College Board; and Robert C. Winters, chairman and chief executive officer, The Prudential Insurance Company of America. The board also re-elected Donald F. McHenry, research professor of diplomacy and international relations at Georgetown University, to a four-year term.

The Japan Prize Goes to ...

John J. Wild, M.D., Ph.D., director of the Medico-Technological Research Institute of Minneapolis, will be awarded the 1991 Japan Prize for Medical Imaging April 24 in Tokyo. Wild will receive a cash award of 50 million yen (about $370,000) for having discovered the field of pulse-echo diagnostic ultrasound in the late 1940s.

Places

MedCenters' Research Award

A MedCenters-sponsored research project received the Outstanding Research Award from the American Medical Review Research Center. The award recognizes research that MedCenters conducted jointly with Park Nicollet Medical Foundation's Health Research Center to determine the feasibility of using claims-based data to monitor quality of care for MedCenters' diabetic patients.

The quality indicator model for diabetes is being incorporated into MedCenters' ongoing quality assurance system and is in various stages of development for breast cancer, prenatal care, and asthma.

United HealthCare Expands

United HealthCare Corporation is expanding its International Falls office, adding 64 new jobs by year-end. As Minneapolis-based United HealthCare continues to grow, the company needs additional space and workers to handle the extra work, said vice president Kathy Walstead-Plumb. She said the company chose to expand in northern Minnesota because the area has "an abundance of reliable, mature, experienced people with good work ethics."

United HealthCare Corporation reported record revenues and earnings for the fourth quarter and year ended December 31, 1990. Revenues for 1990 were $605 million, a 47 percent increase over 1989. Net earnings were $33.9 million, up 148 percent from the previous year.

Fourth-quarter revenues totalled $168.5 million, a 56 percent increase over fourth quarter 1989, with net earnings of $10.3 million, up 114 percent over the same period one year ago.

Socioeconomics

State Health Insurance

A Minnesota Senate subcommittee approved on February 18 the proposal to set up a state insurance program with subsidized premiums and to require all Minnesotans to purchase health care coverage. The subcommittee was the first to approve the Health Care Access Commission plan, which about 12 additional committees and subcommittees in both the House and Senate must consider.

Medicaid Co-pays Proposed

Thousands of Minnesotans would be charged co-pays for Medicaid services under Gov. Arne Carlson's February 20 budget proposal. The co-pays would exclude children, pregnant women, and those in nursing homes or group homes for the retarded.

The co-payments, including $1 for prescriptions, $1 to $3 for psychotherapy and medical transportation, and $2 for eyeglasses, would save the state approximately $1.2 million next fiscal year, said Maria Gomez, assistant human services commissioner.

The General Assistance Medical Care program also would face cuts under Carlson's proposal.

Putting Health Problems in Order

Under a new plan aimed at improving public health care services, public health officials for St. Paul and Ramsey County identified 45 priority health problems for 1992 through 1995. After presenting the list of problems to the Ramsey County Commissioners' Health, Human Services, and Corrections Committee February 19, the officials planned a public meeting to get more information on the health problems and the best ways to handle them.

The list includes such public health problems as injury and violence, cancer, maternal and child health, and AIDS.

Mayo Joins Blue Cross

Mayo Clinic joined Blue Cross and Blue Shield of Minnesota March 1, accepting the health plan's fee schedule and regulations. Under the agreement, Blue Cross members may use Mayo doctors without special permission from the health plan, and members will continue to pay any co-payments or deductibles required in their contracts. Blue Cross Blue Shield's affiliation with Mayo is expected to be a major selling point in attracting new members.

Med School Applications Up

After nearly a decade of decline, medical school applications for next fall are up 15 percent from 1990, according to the Association of American Medical Colleges. More than 33,600 students have applied for 16,000 openings in the 126 accredited medical schools, up from 29,243 last year. The number of Asian applicants is up 30 percent over last year and has more than doubled since 1984—going from 1,091 to 2,431.

From 1981 to 1988, the number of medical school applicants nationwide fell from 36,727 to a low of 26,721. During these years, qualified students, frightened away from medical school by heavy debts, long years of study, and malpractice suits, tended to study law and business.

Destined for Nursing Homes

Of the 2.2 million Americans who turned 65 in 1990, more than 900,000 of them, 45 percent, will live in a nursing home at least once before they die, according to a study in the February 28 *New England Journal of Medicine.*

The study questions whether nursing homes should remain the primary place of care for the elderly. "When one in seven men and one in three women who reached the age of 65 in 1990 are projected to spend at least one year in a nursing home, society needs to undertake a fundamental reassessment of long-term care, rather than simply paying for what has been done in the past," write the researchers, economist Peter Kemper and epidemiologist Christopher Murtaugh.

Innovations

Laser Laparoscopic Appendectomy

Abdominal surgery through a scope has taken another step forward at Abbott Northwestern Hospital in Minneapolis. Surgeons are performing appendectomies that require only three small puncture wounds near the belly-button rather than a major incision through abdominal muscles.

A laparoscope inserted through the puncture allows physicians to see the appendix and surrounding organs on a television monitor. Instruments to hold the appendix are inserted through a small hole on each side of the abdomen. Then a laser inserted through the laparoscope cuts out the appendix, which is removed through the laparoscope.

General surgeon Joseph Pietrafitta, M.D., performed the first laser laparoscopic appendectomy in January at Abbott Northwestern. Ten had been performed at the hospital by late February. Some general surgeons at Abbott Northwestern are now able to use laser laparoscopy in abdominal surgery to remove appendixes and gallbladders and to repair hernias. Pietrafitta is also researching the use of laser laparoscopy for bowel resection and peptic ulcer surgery.

A study of the first 100 patients who had gallbladders removed with laser laparoscopic cholecystectomy at Abbott Northwestern shows that eight patients had conditions that required traditional surgery. The patients who were able to have the less invasive procedure were out of the hospital by the third day and returned to normal activities within a week, according to the hospital. Standard gallbladder surgery usually means a five-day hospital stay and a four-week recovery.

Diamond-studded Tool Clears Clogged Arteries

Spinning at 200,000 times per minute, a tiny tool with an egg-shaped tip covered with thousands of microscopic-sized diamond chips, successfully unclogged artery deposits in 95 percent of 315 patients, reported researchers March 4.

Side effects were minimal, according to Maurice Buchbinder, M.D., a cardiologist at the University of California, San Diego. At the annual meeting of the American College of Cardiology, he said about 6 percent of the patients suffered heart attacks, but there were no deaths. The arteries remained open six months after the procedure in about two-thirds of the patients.

Heart Technology Inc. of Bellevue, Washington, manufactures the device, which is called a Rotablator. The company's chairman, David Auth, developed the product.

High-powered X-ray Tracks Heart Disease

Researchers at Brookhaven National Laboratory are fighting heart disease with a new technique, transvenous angiography, made possible through a powerful X-ray. Researchers inject an iodine dye into a person's bloodstream by threading a catheter through a vein, usually in the arm. They then view the person's coronary arteries using high-energy X-rays from the $150 million National Synchrotron Light Source, a powerful circular electron accelerator. With a typical X-ray, such imaging has only been possible using catheterization angiography, a dangerous procedure that involves injecting a dye directly into the coronary artery.

Transvenous angiography allows researchers to follow a patient's heart disease on a regular basis, such as every six months or every year.

Pill for AIDS-related Pneumonia

An inexpensive pill can be effective in preventing the deadly AIDS-related *Pneumocystis* carinii pneumonia, according to a study published in the February 23 *Lancet*. Researchers found that most AIDS patients could tolerate trimethoprim/sulfamethoxazoleis, better known by the brand names Bactrim and Septra, at regular oral doses given three times per week. The drug is inexpensive, costing $1 to $2 per month, compared with about $200 per month for aerosol pentamidine, the only medication the FDA has approved for preventing the pneumonia in AIDS patients. The researchers did not test pentamidine's effectiveness.

Medical Research

Clot-dissolving Drugs

Three competing clot-dissolving drugs used to treat heart attack victims were found equally effective in a recent study, but the oldest and least expensive, streptokinase, was least likely to cause strokes. The two newer drugs, tPA and APSAC, sell for about 10 times the price of streptokinase, but their makers say the new drugs show improvement over streptokinase based on several smaller studies.

At the annual meeting of the American College of Cardiology in March, the study's researchers said the drugs work in a wider range of patients than doctors had earlier thought and can be used to save lives up to 12 hours after a heart attack occurs. Heart disease experts said they hope the research, which was a 40,000-patient, international study, will clear the confusion that has prevented doctors from using the life-saving drugs.

Drug Cuts Heart Failure Deaths

Enalapril, a drug that relaxes blood vessels, halved the death rate from heart failure, researchers announced March 5 at the annual meeting of the American College of Cardiology. University of Minnesota physician Jay Cohn, M.D., reported that when patients with mild to moderate heart failure are given enalapril, their annual death rate is 10 percent, compared with 20 percent for patients not given the drug.

Two studies on adrenaline published in the March 6 *Journal of the American Medical Association* showed that the drug, used to revive heart attack patients, is more effective at higher doses, and the increased dose does not increase direct complications. Adrenaline, or epinephrine, was not adequate to revive patients who had been in cardiac arrest for 15 minutes or longer.

MS Treatment Fails Test

Cyclophosphamide, a widely used experimental drug for multiple sclerosis, worked no better than a placebo in a recent study published in the February 23 issue of the *Lancet*. The study found temporary benefit, but the authors say it is insignificant.

Plasmapheresis, another MS treatment, also failed to work better than a placebo treatment.

"Based on these results, we feel we can't recommend these treatments" to patients with progressive multiple sclerosis, said John Noseworthy, M.D., who directed the research at nine Canadian medical centers and is now associate professor of neurology at the Mayo Clinic. He said the results are "tremendously disappointing."

Stroke Update

The death rate from strokes declined 33 percent in the United States between 1978 and 1988. Nonetheless, strokes remain the third leading cause of death—after heart attacks and cancer—and they appear to be increasing in women, according to research presented in February at the Annual Stroke Meeting of the American Heart Association. Researchers do not know why strokes are increasing in women, who account for 60 percent of the approximately 150,000 Americans who died from strokes in 1988.

The following findings were also reported at the meeting:

- Carotid endarterectomy proved so successful in preventing strokes that the government halted studies of the procedure, deciding to offer the surgery to the studies' control groups and to send an alert to medical organizations about the surgery's success. Carotid endarterectomy, which has been practiced for years, prevents strokes in patients with severe narrowing of the carotid artery by removing a portion of the artery and then reconnecting it with an artificial tube or a vein from somewhere else in the body.
- Researchers also announced that aspirin and warfarin, blood-thinning drugs, might be capable of preventing as many as 75,000 strokes per year in the United States. In studies conducted in Boston and Canada, warfarin cut the risk of stroke by 67 percent and aspirin cut the risk by 42 percent, said Roger Kelley, M.D., a neurologist at the University of Miami. The studies were halted because doctors felt it unethical to continue withholding the treatment from control groups. The research focused on strokes caused by atrial fibrillation, which produces blood clots that restrict blood flow to the brain.
- A person who smokes one pack of cigarettes a day or less is four times as likely as a nonsmoker to suffer subarachnoid hemorrhage, a type of stroke with high incidence of death. Those who smoke more than one pack a day can be up to 11 times more likely to suffer such a stroke. A similar study found that smoking speeds deterioration of the arteries that supply blood to the brain. Artery damage in a 50-year-old who smokes two packs a day is similar to artery damage on a 60-year-old who smokes lightly, in effect taking 10 years off the heavy smoker's life, said Robert Dempscy, M.D., a neurosurgeon at the University of Kentucky in Lexington. **MM**

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A Calendar of Continuing Medical Education Courses

Provided through the MMA Medical Education Subcommittee on CME Resources. For assistance with scheduling meetings or for information on future medical meetings and CME courses at the state and national level, please contact the MMA office: 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414; 612/378-1875. Information for each entry is arranged by date; name of program; primary sponsor; location; contact person.

APRIL 1991

Apr. 4 **Research Update** Group Health Continuing Research Education Fund; Minneapolis Metrodome Hilton, Minneapolis, MN. CONTACT: Debbie Bladine, Physician Services, Group Health, 2829 University Avenue, Minneapolis, MN 55414-3292; 612/623-8479.

Apr. 4-5 **Ob/Gyn Update** St. Paul-Ramsey Medical Center; Holiday Inn East, St. Paul, MN. CONTACT: Bonnie Young, 640 Jackson Street, St. Paul, MN 55101; 612/221-3992.

Apr. 4-6 **Total Joint Arthroplasty** Mayo Clinic and Mayo Foundation; Scottsdale, AZ. CONTACT: Rita Kunz or Jan Fleck, Mayo Clinic, 200 1st Street SW, Rochester, MN 55905; 507/284-2509.

Apr. 5 **Annual ENT Update for Primary Care Physicians** St. Paul-Ramsey Medical Center; St. Joseph's Hospital, St. Paul, MN. CONTACT: Bonnie Young, 640 Jackson Street, St. Paul, MN 55101; 612/221-3992.

Apr. 5 **Identification and Management of HIV-Infected Persons** Office of CME, University of Minnesota; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, MN 55455; 612/626-7600.

Apr. 5 **Seventh Annual Duluth Heart Conference** The Duluth Clinic; Fitger's Spirit of the North Theatre, Duluth, MN. CONTACT: Barbara Jablonski, CME Manager, 400 East Superior Street, Duluth, MN 55805; 218/725-3816.

Apr. 6 **Pediatric Half-Day Seminar** Group Health Continuing Research Education Fund; Minneapolis Metrodome Hilton, Minneapolis, MN. CONTACT: Debbie Bladine, Physician Services, Group Health, 2829 University Avenue, Minneapolis, MN 55414-3292; 612/623-8479.

Apr. 6 **Dilemmas In Neurology: Now What Do I Do?** Minneapolis Clinic of Neurology, Ltd.; Radisson Plaza Hotel, Minneapolis, MN. CONTACT: Jack E. Habband or Bruce D. Snyder, M.D., 4225 Golden Valley Road, Minneapolis, MN 55422; 612/435-8516 or 612/588-0661.

Apr. 8-9 **Annual Ophthalmology Course** Office of CME, University of Minnesota; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, MN 55455; 612/626-7600.

Apr. 11 **Ethics and the Patient with Cancer** American Cancer Society, Rochester Community College; Phillips Hall, Siebens Education Building, Mayo Medical Center, Rochester, MN. CONTACT: Faith Zimmerman, RN, Rochester Community College, 851 30th Avenue SE, Rochester, MN 55904; 507/285-7571.

Apr. 11 **Minnesota Gerontological Society's Spring Conference** MGS and Minnesota Area Geriatric Education Center; Sheraton Midway Inn, St. Paul, MN. CONTACT: Jeanne Bader, 612/624-3904, or Monica Carlson, 612/932-5041.

Apr. 11-12 **Allergy & Clinical Immunology** Office of CME, University of Minnesota; Mayo Memorial Auditorium, Minneapolis, MN. CONTACT: Registrar, Office of CME, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, MN 55455; 612/626-7600.

Apr. 12 **Disaster and Hazardous Materials Management Conference** HCMC and Hennepin Faculty Associates; Radisson South Hotel, Bloomington, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Apr. 18 **Advanced Laparoscopic Seminar: Inguinal Herniorrhaphy, Appendectomy** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

Apr. 18 **Ophthalmological Update** Group Health Continuing Research Education Fund; Minneapolis Metrodome Hilton, Minneapolis, MN. CONTACT: Debbie Bladine, Physician Services, Group Health, 2829 University Avenue, Minneapolis, MN 55414-3292; 612/623-8479.

Apr. 18-19 **Bone Marrow Processing Laboratory** Office of CME, University of Minnesota; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, MN 55455; 612/626-7600.

Apr. 19 **Advanced Laparoscopic Seminar: Inguinal Herniorrhaphy, Appendectomy** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

Apr. 19 **Annual John I. Coe Conference** HCMC and Hennepin Faculty Associates; Hennepin County Medical Center, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Apr. 19-20 **Sexual Attitude Reassessment Seminars (SAR)** University of Minnesota; Program in Human Sexuality, Minneapolis, MN. CONTACT: SAR Coordinator, Pro-

Health One Medical Education

April 8-9
ADVANCED TRAUMA LIFE SUPPORT (ATLS)
United Hospital, St. Paul, Minnesota
8:00 a.m. - 5:00 p.m.

April 11
PEDIATRIC GASTROENTEROLOGY
Presented by Phillip Kibort, M.D.
Sioux Valley Hospital, New Ulm, Minnesota
12:30 p.m.

April 18
SECOND ANNUAL SEMINAR IN EMERGENCY MEDICINE
University of Wisconsin, River Falls Campus
5:00 p.m. - 9:00 p.m.

April 24
CURRENT TOPICS ON SYSTEMIC LUPUS ERYTHEMATOSUS
Orthopaedic Learning Center,
Metropolitan-Mount Sinai Medical Center,
Minneapolis, Minnesota
4:00 p.m. - 8:00 p.m.

May 13
EMERGENCY MEDICINE: THE CRITICAL 1ST HOUR
A Seminar for Nurses and Paramedics
Earle Brown Heritage Center,
Brooklyn Center, Minnesota
8:00 a.m. - 4:00 p.m.

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gram in Human Sexuality, 2630 University Avenue SE, Minneapolis, MN 55414; 612/627-4360.

Apr. 19-20 **Bone Marrow Processing Laboratory** Office of CME, University of Minnesota; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, MN 55455; 612/626-7600.

Apr. 22-26 **Family Practice Review** Office of CME, University of Minnesota; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, MN 55455; 612/626-7600.

Apr. 26-27 **14th Annual Update in Clinical Cardiology** Abbott Northwestern Hospital; Radisson Plaza Hotel, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

Apr. 26-28 **MAPA 16th Annual Spring Seminar** Physician Assistants & Nurse Practitioners; Holiday Inn West, St. Louis Park, MN. CONTACT: Robert Bendickson, RR 3, Box 126A, Stanchfield, MN 55080-9803; 612/396-4296 (home), 612/689-1411 (work).

MAY 1991

May 1 **Afro-Americans in the Health Care Setting** HCMC and Hennepin Faculty Associates; Hennepin County Medical Center, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

May 1-3 **Minnesota Academy of Family Physicians Annual Spring Refresher** Minnesota Academy of Family Physicians; Hyatt Regency Hotel, Minneapolis, MN. CONTACT: MAFP, University Office Plaza, 2221 University Avenue SE, Suite 426, Minneapolis, MN 55414; 612/331-2506 or 800/999-8198.

May 3 **Annual Practical GI Conference for Primary Care** HCMC and Hennepin Faculty Associates; Hennepin County Medical Center, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

May 9 **Research at HCMC Fifth Annual Poster Session** HCMC and Hennepin Faculty Associates; Hennepin County Medical Center, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

May 10 **Technological & Ethical Issues in Hand Surgery** Hand Surgeons of Minnesota and Health East; Sheraton Midway Hotel, St. Paul, MN. CONTACT: Lisa Harrell, Health East Midway Hospital, 1700 University Avenue, St. Paul, MN 55104; 612/641-5112.

May 10-11 **Ophthalmic Reviews** Mayo Clinic and Mayo Foundation; Leighton Auditorium, Rochester, MN. CONTACT: Rita Kunz or Jan Fleck, Mayo Clinic, 200 1st Street SW, Rochester, MN 55905; 507/284-2509 or 800/323-2688.

May 14 **Women's Cancer Center Symposium** Office of CME, University of Minnesota; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, MN 55455; 612/626-7600.

May 15-17 **Concepts in Radiation Therapy** Office of CME, University of Minnesota; Mayo Memorial Auditorium, Minneapolis, MN. CONTACT: Registrar, Office of CME, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, MN 55455; 612/626-7600.

May 16 **Advanced Laparoscopic Seminar: Inguinal Herniorrhaphy, Appendectomy** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

May 16 **Hospice** Group Health Continuing Research Education Fund; Minneapolis Metrodome Hilton, Minneapolis, MN. CONTACT: Debbie Bladine, Physician Services, Group Health, 2829 University Avenue, Minneapolis, MN 55414-3292; 612/623-8479.

May 16-18 **Acupuncture for Pain Control** HCMC and Hennepin Faculty Associates; Hennepin County Medical Center, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

May 17 **Advanced Laparoscopic Seminar: Inguinal Herniorrhaphy, Appendectomy** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

May 18 **Advanced Laparoscopic Seminar: Inguinal Herniorrhaphy, Appendectomy** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

May 19-21 **21st Annual Meeting** Great Plains Organization for Perinatal Health Care; Northland Inn, Minneapolis, MN. CONTACT: Mary McClung, 1100 South Euclid Avenue, Sioux Falls, SD 57117; 605/333-7191.

May 22-24 **International Symposium on Neuroblastoma Screening** Office of CME, University of Minnesota; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, MN 55455; 612/626-7600.

May 24 **Management of Pressure Sores for Primary Care** HCMC and Hennepin Faculty Associates; Hennepin County Medical Center, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

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References:
1. A. Morales et al., New England Journal of Medicine: 1221, November 12, 1981.
2. Goodman, Gilman — The Pharmacological basis of Therapeutics 6th ed., p. 176-188. McMillan December Rev. 1/85.
3. Weekly Urological Clinical letter, 27:2, July 4, 1983.
4. A. Morales et al., The Journal of Urology 128: 45-47, 1982.

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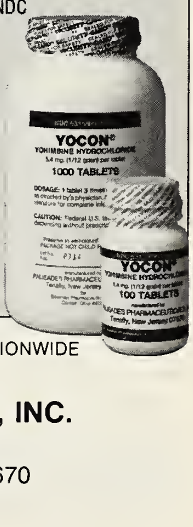

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JUNE 1991

June 12-14 **Topics & Advances in Pediatrics** Office of CME, University of Minnesota; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, MN 55455; 612/626-7600.

June 14 **Crisis Intervention: What Difference Does it Make?** HCMC and Hennepin Faculty Associates; Hennepin County Medical Center, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

June 18 **33rd Hitchcock Surgical Society Symposium** HCMC and Hennepin Faculty Associates; Hennepin County Medical Center, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

June 19-22 **55th Annual Course: Progress in Trauma and Critical Care Surgery** Department of Surgery, University of Minnesota Medical School; Willey Hall, U of M, Minneapolis, MN. CONTACT: Office of CME, University of Minnesota, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, MN 55455; 612/626-7600.

June 20 **Introductory Seminar: Lasers in General Surgery** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

June 21-22 **Comprehensive Laparoscopic Seminar: Cholecystectomy, Inguinalhaphy, Herniorrhaphy, Appendectomy, Peptic Ulcer Surgery** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

June 21-22 **Sexual Attitude Reassessment Seminars (SAR)** University of Minnesota; Program in Human Sexuality, Minneapolis, MN. CONTACT: SAR Coordinator, Program in Human Sexuality, 2630 University Avenue SE, Minneapolis, MN 55414; 612/627-4360.

JULY 1991

July 20-27 **Ninth Annual Medical Seminar** North Memorial Medical Center, University of Minnesota Department of Family Practice, and St. John's Regional Health Center; Plummer's Great Slave Lake Lodge, NW Territories, Canada. CONTACT: Joseph F. Bocklage, M.D.; 612/588-9478.

SEPTEMBER 1991

Sept. 4-7 **Annual Forensic Science Seminar** HCMC and Hennepin Faculty Associates; Hennepin County Medical Center, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Sept. 6 **Annual Clinical Management of Osteoporosis** HCMC and Hennepin Faculty Associates; location to be announced. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Sept. 19-20 **Annual Trauma and Critical Care Conference** HCMC and Hennepin Faculty Associates; Hennepin County Medical Center, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Sept. 20 **Pain Management Strategies for Primary Care** HCMC and Hennepin Faculty Associates; Hennepin County Medical Center, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Sept. 20-21 **American College of Surgeons Commission on Cancer** Cancer Management Course; Mayo Clinic Facilities, Rochester, MN. CONTACT: Dr. John Donohue or Dr. David Nagorney, Mayo Clinic, Department of Surgery, Rochester, MN 55905; 507/284-2644.

Sept. 27 **Annual Contemporary Issues in Dialysis Therapy** HCMC and Hennepin Faculty Associates; Sheraton Midway Hotel, St. Paul, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Sept. 27 **Thrombolytic Therapy in Acute MI** Abbott Northwestern Hospital; Minneapolis Heart Institute, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

Sept. 27-28 **CO_2 Laser: An Introductory Course in Office and Outpatient Procedures** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

OCTOBER 1991

Oct. 2-4 **Fourth International Symposium on Biliary Stone Therapy** Mayo Clinic and Mayo Foundation; Mayo Clinic, Rochester, MN. CONTACT: Rita Kunz or Jan Fleck, Mayo Clinic, 200 1st Street SW, Rochester, MN 55905; 507/284-2509 or 800/323-2688.

Oct. 3-4 **Annual Forensic Science Seminar** HCMC and Hennepin Faculty Associates; Hennepin County Medical Center, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Oct. 11 **Annual Advances in Geriatric Care** HCMC and Hennepin Faculty Associates; Hennepin County Medical Center, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Oct. 18 **Current Topics in Neurology & Psychiatry** HCMC and Hennepin Faculty Associates; Minneapolis Athletic Club, Minneapolis, MN. CONTACT: Office of Academic

Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

NOVEMBER 1991

Nov. 1 **Thrombolytic Therapy in Acute MI** Abbott Northwestern Hospital; Minneapolis Heart Institute, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

Nov. 1 **Upper Midwest Sleep Society Meeting** HCMC and Hennepin Faculty Associates; St. Paul Hotel, St. Paul, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Nov. 7-8 **Medical Intensive Care Conference** HCMC and Hennepin Faculty Associates; Hennepin County Medical Center, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Nov. 8-9 **Symposium on Sports Medicine** Mayo Clinic/Mayo Foundation; Mayo Clinic, Rochester, MN. CONTACT: Rita Kunz or Jan Fleck, Mayo Clinic/Mayo Foundation, 200 1st Street SW, Rochester, MN 55905; 507/284-2509 or 800/323-2688.

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Bemidji, Minnesota: Excellent opportunities for well-trained physicians. We are seeking BC/BE physicians in family practice, ophthalmology, pediatrics, and otolaryngology to join a young 30-physician multispecialty group practice located in northern Minnesota. Competitive salary guarantee plus incentive first year and excellent benefits. An excellent opportunity for a physician to enjoy practice in the center of hunting, fishing, and clear air. Please respond with CV to: C.C. Lowery, Administrator, Bemidji Clinic-MeritCare, 1233 34th Street NW, Bemidji, MN 56601; 218/751-1280. (R)

Outstanding Opportunity for a BC/BE Family Physician to join a progressive medical community with eight physicians oriented to family practice. Details will be given by contacting: Dr. Tim Schmitt, Wadena Medical Center, 218/631-1360, or Jim Lawson, Administrator, Tri-County Hospital, Wadena, MN 56482; 218/631-3510. (R)

Locum Tenens physicians needed. Physicians and locations coordinating services. Write to: Margaret Carse, MED Professional Resource Search, PO Box 35215, Minneapolis, MN 55435. (10/89-R)

Family Practice: Physicians seeking a BC/BE family practice physician for the Norway, Michigan, service area. The physician would have the option of joining one of the existing practices and/or setting up his/her own practice. Anderson Memorial Hospital is a part of Dickinson County Hospitals and has a service-area population of over 45,000. Contact: Dr. Paul Hayes, Anderson Memorial Hospital, Main Street, Norway, MI 49870; 906/563-9243, or office 906/563-9255. 2-5/91

Urgent Care/Primary Care physicians for over 90 group positions in metropolitan Phoenix/Tucson, Arizona. Excellent compensation/partnership opportunities. Other quality positions nationwide. Send CV or call: Mitch Young (MM), PO Box 1804, Scottsdale, AZ 85252; 602/990-8080. (*1/90-R)

Mankato: FP partner to join four board-certified family physicians, ages 31-41, in fast-growing, full-range practice, includes ob. Population 40,000+. Seventy miles to Twin Cities. Four colleges nearby. Ninety+ physicians on hospital staff. Academic appointment available. Call: Tony Giefer, M.D.; 507/387-8231. (1/90-R)

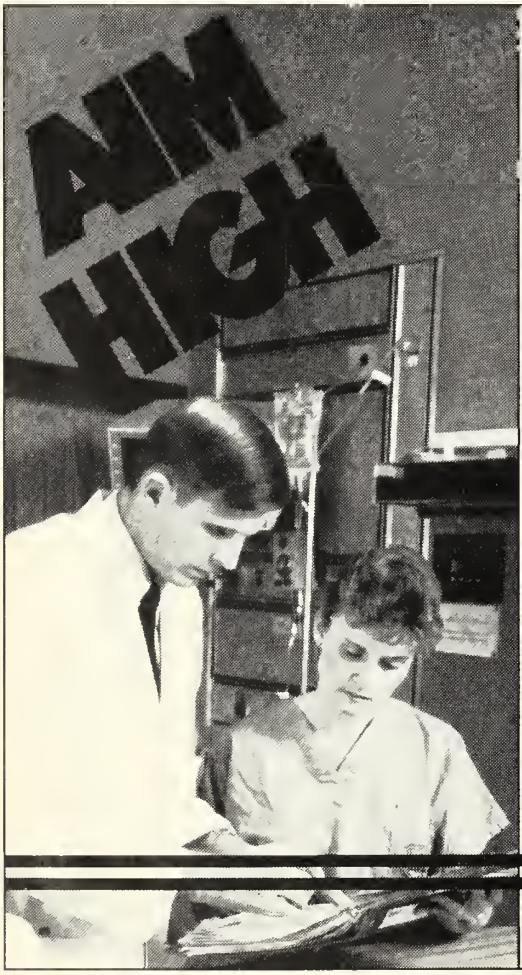
Family Physicians: Well-established south suburban Minneapolis family practice group seeks associates part/full time to staff day clinic. Excellent call schedule, salary, and fringe benefits. Also seeking locum tenens to staff PT/FT Urgent Care Centers and/or day clinic. Contact: Administration, Family Physicians, P.A., 612/435-4125, or send inquiries to Suite 100, 14050 Nicollet Avenue South, Burnsville, MN 55337. (*9/89-R)

Dermatologist, Psychiatrist, Allergist, Internal Medicine, Family Practice: A progressive, 126-bed, two-hospital system is seeking the above specialties to establish practices in the Iron Mountain area of Michigan's Upper Peninsula. Must be BC/BE. Located 100 miles north of Green Bay, Wisconsin. Dickinson County Hospitals has a medical staff of 45 full-time physicians and a total service-area population of over 45,000. Diagnostic capabilities include a CT scanner, CO_2 laser, and a fully staffed special diagnostic department. Contact: John Schon, Administrator, Dickinson County Hospitals, 400 Woodward Avenue, Iron Mountain, MI 49801; 906/779-4500. *2-4/91

BC/BE Family Practice and Internal Medicine Physician: Excellent opportunity to join well-established, progressive, 20-physician multispecialty group located in an economically sound community of 20,000 (drawing area of 30,000), 65 miles south of the Twin Cities. Full membership after one year. Competitive salary and fringe benefits package. Contact: Ed Durst, M.D., or Terry Tone, Administrator, 134 Southview, Owatonna, MN 55060; 507/451-1120. (2/90-R)

Internist to join a progressive 13-physician group practice. Rural college town 30 miles from St. Paul, Minnesota, constructing new clinic and hospital. Contact: Robert B. Johnson, M.D., River Falls, WI 54022; 715/425-6701. (*3/91-R)

Family Practitioner to join a progressive 13-physician group practice. Rural college town 30 miles from St. Paul, Minnesota, constructing new clinic and hospital. Contact: Robert B. Johnson, M.D., River Falls, WI 54022; 715/425-6701. (*3/90-R)



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Forest Lake Doctor's Clinic is seeking a BC/BE family physician, pediatrician, ob/gyn, and internist to join 10-physician multispecialty group. Located 25 miles north of Minneapolis-St. Paul in progressive community with excellent schools, many beautiful lakes, recreational activities, golf, fishing, boating, skiing. Local hospital directly across street. Contact: Dr. Harvey J. Frank or Dr. Doug Sill, 121 SE 11th Avenue, Forest Lake, MN 55025; 612/464-7100. (4/90-R)

Family Practice, Internal Medicine, Pediatrics, Urology, Obstetrics and Gynecology, Dermatology, and Orthopedics practice opportunities available at the Faribault Clinic. The Faribault Clinic is a multispecialty group practice of 14 physicians. Faribault is located 50 miles south of Minneapolis on I-35. For more information contact: Ray W. Wood, M.D., or Ken Smith, Administrator, 924 NE 1st Street, Faribault, MN 55021; 507/334-3921. (4/90-R)

Family Physician: Tired of call? Want predictable hours? Full-time physician needed to work three days per week in our outpatient family practice clinics. One position open immediately. Salary plus bonus and benefits package including malpractice insurance. Contact: Todd Patton, M.D., or William Wenmark, CEO, c/o NOW Care Medical Centers, 13031 Ridgedale Drive, Minneapolis, MN 55343; 612/593-9010. (5/90-R)

Downtown Office Space for Rent: Physician in the Medical Arts Building, 825, wishes to sublet to another physician on a part-time basis for the purpose of sharing overhead expenses. Call: 612/370-0553. (6/90-R)

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Wisconsin: Third BC/BE obstetrician/gynecologist needed to join stable, progressive, primary-care-based HMO/group practice in university town of 60,000 near Minneapolis-St. Paul. Excellent quality of life and outstanding recreational area. Competitive salary and fringe benefits. Contact: Stuart R. Lancer, M.D., Medical Director, Group Health Cooperative, PO Box 3217, Eau Claire, WI 54702-3217; 715/836-8552. *3-5/91

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Send CV to:
Paul Ford, Administrator
Rice Clinic, S.C.
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Stevens Point, WI 55481
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(715) 344-4120

Family Practice / North Shore Lake Superior: BC/BE family physician to join busy practice in primary care clinic of four family physicians with consulting internist, ophthalmologist, general surgeon, and orthopedic surgeon. Advantages of living in a small town while being only 22 miles from Duluth metro area. Contact: Lee Cohen or Steve Bjorum, Administrator, Community Health Center, Inc., 4th Street at 11th Avenue, Two Harbors, MN 55616; 218/834-7207. EOE/AA. (8/90-R)

Olmsted Medical Group is currently seeking BC/BE physicians in the following specialties: general surgery, family practice, emergency medicine, pediatrics, and ob/gyn. Excellent opportunity for well-trained physicians to join a 50+ physician multispecialty group in an established, progressive practice. In addition to the recently expanded main office in Rochester, Minnesota, the group operates eight branch offices in southeastern Minnesota. Affiliate hospital recently underwent complete renovation and expansion. Competitive salary/benefits package includes malpractice insurance, flexible benefits plan, 401(k) and profit sharing, and relocation assistance. Send CV to: Olmsted Medical Group, Attn: Susan Schuett, 210 Ninth Street SE, Rochester, MN 55904. (8/90-R)

Lake City, Minnesota: Family physician BC/BE needed to join three other FPs in progressive, growing practice on Lake Pepin/Mississippi River in southeastern Minnesota. Excellent first-year salary/benefits in a scenic community with multiple recreational opportunities. Contact: D.D. Pflaum, M.D., 303 South Washington, Lake City, MN; 612/345-3318. (8/90-R)

MDsearch assists medical groups and hospitals in their recruiting efforts. For confidential information on opportunities in the Upper Midwest, send CV and/or call collect: Mary Jo Cordes, MDsearch, PO Box 21507, St. Paul, MN 55121; 612/454-7291. 12-8/91

Office Space Available for Sublease: Fully equipped and staffed. Medical building attached to Methodist Hospital. Call: Dalia, 612/927-4071. (10/90-R)

BC/BE Internist to join multispecialty group (network of 21 clinics) and a 19-member department (five general internists and 14 subspecialists, including one infectious disease specialist). Clinic is physically attached to 206-bed hospital. Two state universities and private liberal arts college enhance the cultural life of the community (population is approximately 100,000), and, with Minnesota's lakes country just a half-hour drive away, outdoor activities abound. Competitive salary, excellent fringe benefits package, and malpractice paid. Contact: Dr. John Hicks, Director, Recruiting Division, 1702 South University Drive, Fargo, ND 58103; 701/280-3338 or 701/280-8520. *6-4/91

Family Practice—Hospital-sponsored Clinic Opportunity: Dynamic, growth-oriented hospital in beautiful north-central Wisconsin is seeking family physicians to join a growing practice in a new facility. The administrative burdens of medical practice will be minimized in this hospital-managed clinic. The hospital has committed to an income and benefits package that is significantly higher than similar opportunities. Package includes base income, incentive bonus, malpractice, disability, signing bonus, and student loan reduction/forgiveness program. All relocation costs will be borne by the hospital. Please contact: Kari Wangsness, Associate, The Chancellor Group, Inc., France Place, Suite 920, 3601 Minnesota Drive, Bloomington, MN 55435; 612/835-5123. (12/90-R)

Lake Region Clinic, Brainerd, Minnesota: Recruiting two family practice physicians to join six family practice physicians. Able to do the full scope of family practice including ob and ICU. Good cooperative working relationship with specialists in orthopedic surgery, urology, ENT, OBG, general surgery, internal medicine, ophthalmology, and psychiatry. Modern, well-equipped 160-bed hospital within two blocks. We offer first-year guarantee plus incentive, vacation time, CME study time, insurance, and more. Send CV or contact Darral Mischke, Administrator, or David Boran, M.D., at 218/829-3568. 6-5/91

Midwest: Dakota Medical Center is looking for a fifth ED physician. BC/BE in emergency medicine preferred, but primary care boards with ED experience acceptable. We are a large multispecialty group of 150+ members with all major subspecialties represented. Stockholdership in clinic after two years. Excellent benefits package. Extremely flexible hours in ED (up to 1,760/year), with option to work more in outpatient clinics if desired. Starting salary is >$60/hour. We have experienced a 20 percent increase in patient volume in the past two years, now seeing 18,000/year. Contact: Dakota Clinic, Ltd., Recruiting Division, 1702 South University Drive, Fargo, ND 58103; 701/280-8520. *6-7/91

Family Physician BC/BE: Immediate opportunity to join family practice clinic in Minneapolis. Practice will allow part-time or full-time schedule. Competitive salary and benefits. Interested candidates send CV to: Jean Burns, 10501 Wayzata Blvd., Minnetonka, MN 55343; 612/544-2605. (3/91-R)

Wisconsin: Third BC/BE obstetrician/gynecologist needed to join stable, progressive, primary-care-based HMO/group practice in university town of 60,000 near Minneapolis-St. Paul. Excellent quality of life and outstanding recreational area. Competitive salary and fringe benefits. Contact: Stuart R. Lancer, M.D., Medical Director, Group Health Cooperative, PO Box 3217, Eau Claire, WI 54702-3217; 715/836-8552. *3-5/91

Office Space in Lakeville: 700 square feet, suitable for one or two doctors, any specialty. Equipment option. Call: 612/469-1886 or 612/469-4500. 4-6/91

Wisconsin—Family Practitioner Needed by progressive and growing group practice in west-central Wisconsin city of

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The Door County Summer Institute: July 22-26, 1991: Session 1—Jay D. Haley, M.A., "Directive Therapy." Session 2—Peter E. Sifneos, M.D., "Short-Term Dynamic Psychotherapy." July 29-August 2, 1991: Session 3—Donald Meichenbaum, Ph.D., "Cognitive Therapy." Session 4—MCW Department of Neurology, "Neurology for Non-Neurologists." August 5-9, 1991: Session 5—John H. Greist, M.D., "Anxiety Disorders & Their Treatment." Session 6—Robyn S. Shapiro, J.D./Charles L. Junkerman, M.D., "Medical Ethics in Clinical Practice." Sessions run 9 a.m. to 12:15 p.m. daily in Egg Harbor, Wisconsin. Approved for CME and CEU credits. Sponsored by the Psychotherapy Center at Columbia Hospital and the Department of Psychiatry at the Medical College of Wisconsin. For more information, contact: Sue Walczak, Medical Staff Education, Columbia Hospital, 2025 East Newport Avenue, Milwaukee, WI 53211; 414/961-3448. *1-4/91

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A message from The American Medical Association for the Health Access America Propo

General Surgeon to join a progressive 12-physician group practice. Rural college town 30 miles from St. Paul, Minnesota, constructing new clinic and hospital. Contact: Robert B. Johnson, M.D., River Falls, WI 54022; 715/425-6701. (*4/91-R)

Psychiatrist: Ramsey Clinic and St. Paul-Ramsey Medical Center, a major affiliate hospital of the University of Minnesota, have a non-tenure track position available at the rank of assistant professor for adult psychiatrists. At the assistant professor level, minimum requirements include board certification in the speciality. Positions are available because of successful expansion program taking place throughout the metropolitan area. Responsibilities include outpatient care and consultations. Opportunities to teach and conduct research exist. Applications will be accepted through 7/31/91. Kindly forward CV to: Loriese A. Stoll, Director of Professional Services, Ramsey Clinic, 640 Jackson Street, St. Paul, MN 55101-2595. The University of Minnesota, Ramsey Clinic, and St. Paul-Ramsey Medical Center are equal opportunity educators and employers and specifically invite and encourage applications from women and minorities. *1-4/91

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residents. Qualifications include M.D. degree, three years of neurology residency, board eligible in neurology with at least one year of fellowship experience in neurology of organ transplantation. Interested applicants should submit a current CV to: Richard W. Price, M.D., Professor and Head, Department of Neurology, Box 295 UMHC, Harvard Street at East River Road, Minneapolis, MN 55455, by April 30, 1991. The University of Minnesota is an equal opportunity employer and specifically invites and encourages applications from women and minorities. *1-4/91

Family Physician wanted to join three board-certified M.D.s in well-established, expanding group practice. Weekend ER coverage. No buy-in. Financial package hard to beat. Enjoy a progressive, rural city within easy reach of St. Cloud and Minneapolis. Contact: Dr. Jim Mohs, Melrose Clinic, 603 West Main Street, Melrose, MN 56352; office, 612/256-4228; home, 612/256-3488. (4/91-R)

Long-term Care Review Physicians: The Minnesota Department of Health is seeking the services of seven to 10 qualified physicians located throughout the state to act as part-time consultants to the Quality Assurance and Review Program. Applicants must submit a proposal in accordance with Minnesota Department of Administration procedures. Copies of the Request for Proposal and other information may be obtained from: Connie Krmpotich, Acting Section Chief, Quality Assurance & Review Program, 393 North Dunlap Street, PO Box 64938, St. Paul, MN 55164-0938. The deadline for submission of the proposals is 2:30 p.m., April 20, 1991. *1-4/91

Family Physicians: Fremont Community Health Services is looking for family physicians at our community clinics in low-income neighborhoods in North and Northeast Minneapolis. Full spectrum family medicine, ob, inpatient. Over 30,000 ambulatory visits last year, mostly low-income patients on a sliding fee schedule. Our staff includes board-certified family physicians, certified pediatric and family nurse practitioners, and mental health professionals. Our clinics value the quality of service over volume of service. Send CV to: R. Scott Dyer, M.D., Medical Director, Fremont Community Health Services, 3300 Fremont Avenue North, Minneapolis, MN 55412; 612/588-9411. 1-4/91

General Internal Medicine: Marshfield Clinic, a 350-physician multispecialty group practice, is seeking BC/BE family practitioners to join expanding regional centers. Positions are available in west-central, northwestern, and north-central Wisconsin. These are beautiful, wooded Wisconsin areas with an abundance of lakes, rivers, and streams. All are ideally suited for physicians seeking to combine professional excellence in a Midwest, family-oriented location offering exceptional four-season recreational activities. Wisconsin consistently leads the nation in ACT and SAT scores, and the school systems in these communities are excellent. Each opportunity offers a superlative lifestyle. Each has its own special qualities with more attractive features relative to individual needs and preferences. Starting

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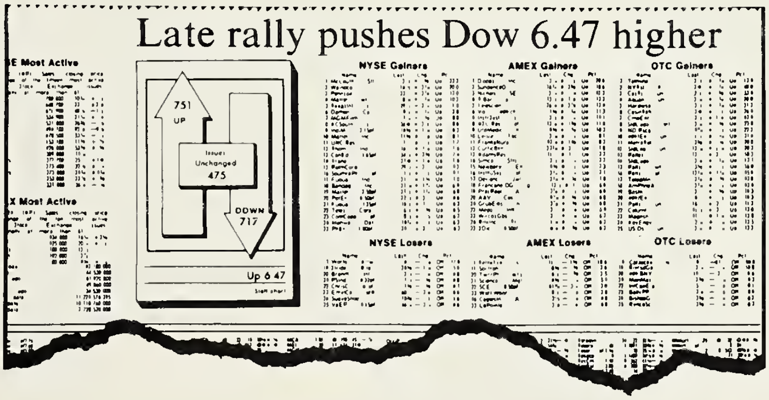

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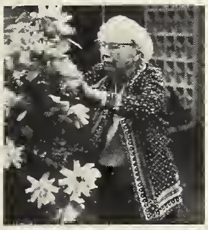

COVER

Home Health Care is making a comeback, and people are rediscovering its benefits. Patients prefer the home setting, which is 25 to 50 percent less expensive than institutional care, and studies show that home care boosts morale and speeds recovery. But as this month's feature story (page 15) discusses, quality of care, reimbursement, and malpractice issues related to home care make many physicians reluctant to join the trend. Still, some predict the day may come when only acute care is provided in the hospital.

Cover photo by Chad Ehlers, Firth Photobank.

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Reflections on *Minnesota Medicine*

Edmund C. Burke, M.D.

Having just barely warmed up the editor's seat at *Minnesota Medicine*, I believe a few reflections are in order. First, congratulations to Dr. Richard Reece, editor-in-chief for 16 years, for a job well-done. Dr. Reece expended his efforts prodigiously to bring *Minnesota Medicine* into the modern world of state medical journals. We at *Minnesota Medicine* are aware of the legacy he provided and pledge to carry it on.

Physicians, educators, and administrators constitute the vast majority of our readership. It is our goal to uphold the interests of organized medicine in Minnesota and to provide scientific and clinical articles and other newsworthy items regarding medical socioeconomics, ethics, law, and other issues shaping medical practice in our state.

Component societies are vital to our efforts, and we hope these groups view *Minnesota Medicine* as a general medical forum—a central source of medical information. We also urge the societies to provide us with information and news.

Minnesota Medicine welcomes article submissions, including clinical studies, reviews, and articles citing new developments in specialty areas. We encourage medical students and residents to submit articles; we recognize our obligation to offer an outlet for these budding authors and investigators.

We also encourage physicians to submit essays, poems, and opinion pieces to our Perspectives section, and we hope this section will grow in appeal. Many physicians find great satisfaction writing about the human experience, particularly those who are fine tuned to human feelings. Medicine is rich in pathos; to experience it enriches life.

"It is our goal to uphold the interests of organized medicine in Minnesota."

Letters to the editor are vital for taking the pulse of our readership. We encourage readers to respond to *Minnesota Medicine*'s features and clinical articles and to send opinions on recent medical issues. Ideas are always welcome. News of physicians, hospitals, and medical schools provide fuel for the journal engine.

So much for the present. What do we have in mind for the future?

We hope to keep in touch with our physician neighbors in the Dakotas, Wisconsin, Iowa, and Nebraska. With us, these states constitute the North Central Medical Conference, the delegates of which meet annually each November in Minneapolis. We believe all will profit by closer ties.

As a side note, the *South Dakota Medical Journal* has new co-editors, John Ford Barlow, M.D., a pathologist in Rapid City, and Jerome William Freeman, M.D., a neurologist in Sioux Falls. We congratulate them and hope to enter into collaborative endeavors. We also extend our heartiest best wishes to Robert VanDemark Sr., M.D., South Dakota's editor for 33 years. A commemorative resolution honoring Dr. VanDemark will be submitted to the AMA House of Delegates, *AM News*, and the *Journal of the American Medical Association*. We join in the tribute.

In the future, we would like to include book reviews in *Minnesota Medicine* and will call upon an enlarged advisory committee to carry out the task. We plan to provide editorial commentary on certain scientific articles when their nature merits an expert's opinion. We are negotiating with the Minnesota Department of Health for monthly news items pertinent to medical practice and health care in Minnesota.

Historical vignettes on leaders in Minnesota medical history have always fascinated me, and we hope to include more of these in the future. Reminders of our rich heritage serve to inspire physicians, new and old.

As you have come to expect, we will continue to feature important issues that affect medical practice in Minnesota. Through our "Medicine Law & Policy" section, we will inform you of important changes in laws and regulations. We will also continue to publish articles about strategies in clinic management, personal and business investment, taxes, and human resources in our "On the Business Side" section. We hope these features will help you deal with the practical and legal sides of your medical career.

Remember, as a Minnesota physician, this is your journal. We welcome your opinions and encourage you to submit articles and ideas at any time. MM

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Reaping the Rewards of Rural Practice

Minnesota Medicine interviews Douglas D. Pflaum, M.D.

Two years ago, a joint Minnesota Medical Association/Minnesota Hospital Association survey found rural physicians in high demand across Greater Minnesota. Seventy-eight percent of rural hospitals were actively recruiting physicians, and on average, those hospitals had been searching for 17 months with very little success. Two years later, things haven't changed much.

Douglas Pflaum, M.D., in many ways represents a typical rural family physician in Minnesota. One of three partners in the Lake City Clinic, Pflaum is busier than he ever anticipated he'd be after five years in Lake City. The clinic has more than enough work for an additional physician, but recruiting has been unsuccessful, in spite of the area's beauty and access to nearby cities and tertiary care medical centers.

The widespread problem of physician recuritment has been largely attributed to inequitable Medicare reimbursement, which in some rural areas of Minnesota ranks at the bottom of the nation. The problem is exacerbated by a high population of Medicare and Medicaid patients.

Despite the difficulties, Pflaum is very happy working in rural Minnesota. He finds the quality of life superior and says he wouldn't find the same level of independence in an urban practice. From a small town himself, Pflaum chose rural practice because he feels at home in a small community. He believes it is important to expose medical students to rural practice, which both the Duluth and Minneapolis medical schools do through their preceptor programs (see cover story, Minnesota Medicine, *February 1991).*

The survival of rural hospitals is also a concern in Minnesota. The MMA/MHA survey found that one-third of all rural hospitals had lost money during four of the eight years before the survey. While Pflaum says Lake City Hospital has done quite well financially in recent years, he sees other problems on the horizon.

Rural physicians don't have the time to form coalitions and promote change, says Pflaum, who looks to organizations such as the MMA and the state's medical schools to change the future of rural practice.

Douglas D. Pflaum, M.D.

> "Rural physicians have neither the time nor the organization to band together to make change."

Minnesota Medicine: Dr. Pflaum, thank you for taking the time to talk with *Minnesota Medicine* about family practice in rural Minnesota. Where are you from, and where were you educated?

Pflaum: My hometown is a small community in Michigan named St. Clair, northeast of Detroit. My parents are originally from Minnesota; that's how I ended up in this area. I received my undergraduate degree from the University of Michigan and went to medical school at Wayne State University in Detroit. I then did my residency at Bethesda Hospital in St. Paul.

Minnesota Medicine: You and your partners in the Lake City Clinic, Dr. Gary Feigal and Dr. Frank Thorngren, do family practice, is that correct?

Pflaum: Family practice in every sense of the term.

Minnesota Medicine: To whom do you refer patients if they need surgery?

Pflaum: We do among the three of us whatever we can do and feel comfortable doing, including C-sections, appendectomies, and minor surgeries such as vasectomies and tubal ligations. The Interstate Clinic surgeons from Red Wing provide general orthopedic, urologic, and ophthalmologic surgery coverage.

Minnesota Medicine: When did you move to Lake City?

Pflaum: This is my fifth year in Lake City.

A Changing Practice

Minnesota Medicine: Have you seen any change in the nature of the practice in the course of five years?

Pflaum: There is continual change. When I first came to Lake City from Wabasha, which is 14 miles down the river, I knew what rural practice would involve, but I did not anticipate how busy I would be. The rural physician's workload seems to be growing tremendously for many different reasons. Our patient load is growing. The nonpatient care aspects of practice—paperwork and bureaucratic involvement—seem to be increasing every year. My involvement in the community, including work at the hospital, the health care board that manages the nursing home and hospital, and the ambulance commission, demands time as well.

Minnesota Medicine: What do you think is happening to practice in this area? Is everyone experiencing such a growth in clientele?

Pflaum: In general, I think the younger rural practitioners are experiencing this growth, in part because the number of rural practitioners is declining. We're unique here in Lake City because we're fairly close to some large tertiary care centers such as the Mayo Clinic and its associated hospitals. We are not far from the Twin Cities and some of their large hospitals. Some of our patients go to the Gunderson Clinic, which is 70 miles down the road, and some go to Eau Claire, which is an equal distance. We're in the midst of a number of competing secondary and tertiary care centers. We certainly have more than enough access to referral services. We are busy because an element of the population continues to need local physicians, such as the relatively immobile elderly and the disadvantaged who don't have the transportation to travel outside the community. Some people cannot afford to go outside the community for care because they lack insurance or because they're on medical programs such as Medical Assistance, which some larger centers will not accept. We feel an obligation to provide service to almost everyone who requests it.

Recruiting Rural Docs

Minnesota Medicine: I know some parts of Minnesota have experienced a serious drop in the number of practitioners. Is this area losing practitioners?

Pflaum: Unfortunately, we are having difficulty recruiting a physician to this area. We've worked persistently the last few years—talking to family practice residents, attending recruitment seminars, advertising in medical journals—to recruit a rural practitioner to this clinic. Thus far, we've been unsuccessful. I don't think our situation is much different from other areas of Minnesota, and those areas probably don't have what we have in terms of scenery, recreational activities, and access to large cities and tertiary care medical centers. There aren't enough physicians in the community to handle our patient base, and some of the community's physicians are 50 years and older and will not be practicing forever.

Minnesota Medicine: In February, *Minnesota Medicine* featured the University of Minnesota–Duluth Medical School and described its success in promoting rural practice. What made rural practice so appealing to you?

Pflaum: First, I think UMD is right on track when it looks for people from small communities to enter medical school because of the likelihood they'll go back to a small community. I grew up in a small community. I'm used to a small community, and I would not think of going to a larger community to live or practice. Second, I think it helps the Duluth and Minneapolis programs to get students out into rural or primary care practices while they are students. The Rural Physician Associate Program, for which I'm currently a preceptor, does that and does it very well. Medical students need exposure to rural primary care, or any office-based primary care, because many medical schools and residency programs only expose students to fairly specialized hospital-based practices. I can't stress enough the importance of exposing students and residents to practices such as ours.

Organized Medicine and Payment Reform

Minnesota Medicine: Have you participated in organized medicine at the county, state, or national level?

Pflaum: I am active with our local medical staff and with the community's health care board. At the state level, I serve on the Minnesota Academy of Family Physicians' Legislative Committee, and until recently, I was chairman of the academy's Patient Education Committee.

Minnesota Medicine: Do you think organized medicine, specifically the Minnesota Medical Association, serves your needs?

Pflaum: Generally, yes, very well. Over the last few years, the MMA has emphasized the problems of rural practice. It continually addresses inadequate Medicare and Medical Assistance reimbursement and the disparity between urban and rural areas. The MMA also supports the new Office of Rural Health, which was formed to find ways to encourage more physicians and providers to settle in rural areas. Rural physicians are spread out across the state, and as a group we have neither the time nor the organization to band together to make change. We depend on the MMA and on the Minnesota Academy of Family Physicians to support our needs and goals.

Minnesota Medicine: The MMA has helped put together a coalition of 35 states to fight reimbursement disparity. Medicare reimbursement for some rural Minnesota practitioners is fourth from the bottom in the United States. That is abominable. Is reimbursement the primary disincentive for younger physicians to practice in rural areas?

Pflaum: I think it's one of the disincentives, although I believe that most physicians who go to rural areas go not for the income, but rather for the quality of life in a small community, the quality of life for their families, and the type of practice they can have in a small community. My partners and I are fairly independent, and we like to practice a wide range of family practice. That's something we probably couldn't do in a large community with many other specialists, or in a big city, where it is tough to get privileges for all the things we do in a community like Lake City.

Minnesota Medicine: The resource-based relative value scale looms on the horizon for all of us. How do you think the RBRVS will affect your practice?

Pflaum: The tables and figures in the original reports show that rural practitioners are going to do very well under the new policies, especially in areas like rural Minnesota. But in recent months, I've seen more and more published material that says no one is going to do well under RBRVS; some physicians will do worse than others, and those who are lucky will maintain the income they have now. I'm not real optimistic, and I'm certainly not looking forward to another government program that will create more paperwork for my staff just to get a few more dollars here and there.

The Survival of Rural Hospitals

Minnesota Medicine: Survival of rural hospitals is another considerable problem. Tell me about the Lake City Hospital. How are things going, what problems does the hospital face, and what do you see in the future?

Pflaum: Fortunately, Lake City Hospital has done very well financially. It has good financial management, and for the past few years, it had profit margins at the top among state hospitals. However, there are some problems on the horizon. Again, physician recruitment is a problem. We still need physicians in the community to keep the hospital functioning. Erosion of public support for local hospitals is another problem. Unlike some small communities, which often have only one hospital within 50 miles, our community has other health care options for the mobile, the fairly affluent, and the well-insured. There's no real incentive to be hospitalized here for surgery or to have a baby in Lake City if you can drive 30 miles to Rochester or 15 miles to Red Wing and get the same care from specialists besides family physicians. The best way for us to address the problem is to provide as much care as possible to our patients locally, develop trusting relationships so they have no incentive to go elsewhere, and continue to practice what we believe is excellent patient care.

Minnesota Medicine: How has the DRG system affected the hospital?

Pflaum: I believe DRGs have a role in limiting hospital stays and giving the hospital and physicians a tool for moving patients out of the hospital and into the nursing home, or out of the hospital and into the home care setting when the patient doesn't belong in an acute care setting. But there's a great difference between DRGs as they are applied to rural hospitals versus metropolitan hospitals. Metro hospitals typically have much better access to social service programs that can arrange home care, nursing home care, and outpatient programs. We don't have the same resources, and sometimes the hospital is the only safe place for a patient, even though hospitalization may not be necessary in terms of acute care. I'm concerned that officials who review rural hospital charts aren't keeping that in mind. I'm also concerned that some of the reviewers don't provide primary care and may not understand the role a rural hospital plays in caring for such patients.

Minnesota Medicine: Recently, attention has been given to physicians salaried by hospitals. What is your opinion of these arrangements?

Pflaum: I'm aware of some colleagues in rural Minnesota who receive salaries or participate in arrangements where the hospital manages the practice and reimburses the physician. The arrangements seem to work well, but I'm wary of the physician's close relationship with the hospital. As physicians, we have to keep the patient's care and welfare in mind. Sometimes hospitals have finances, rather than patient care, as their bottom line. I don't ever want to be in a situation where quality of medical care is just *one* of the most important priorities instead of *the* most important priority. A salary arrangement with the hospital can potentially stretch that principle.

Minnesota Medicine: What advice can you offer medical students contemplating rural practice?

Pflaum: Obviously, opportunities abound in Minnesota for rural primary care physicians. For the competent and confident family physician, rural practice can be a challenging, successful, and exciting experience. Involvement in a rural practice allows a physician to promote quality patient care in the office setting, the hospital, and the community. Medical students planning a career in primary care should consider rural practice a viable and rewarding option. MM

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Letter to a New Physician

Paul F. Bowlin, M.D.

"The medical student may be sometimes a rough diamond; but when he comes to have personal charge of patients, and to have life and health of a fellow-creature depending on his individual care, he becomes a changed man, and from that day forth his life becomes a constant exercise of beneficence."

– Joseph, Lord Lister (1827-1912)

* * *

Dear Colleague,

This salutation is written with some awkwardness. I am unfamiliar addressing you as such. Our usual roles are as father-son, parent-child, tennis adversaries, or canoe partners. Our new roles as professional colleagues are exciting to anticipate, and yet filled with fear of the unknown. What kind of physician will you be? How will our relationship change? Are you really prepared for the life of a "changed man"?

Indeed, as you are changing, so also is your profession changing. Social and economic imperatives seem to threaten the traditional moral and ethical underpinnings of our profession. Overcharges, patient neglect or abandonment, ordinary human greed, the precedence of business over the profession, drug and narcotic abuse all play their siren songs, distracting us from our patient-centered orientation.

For you at the this time of celebration, and for all of us in medicine at this time of rapid evolution, it is important to refocus our thoughts on the core characteristics of our profession.

First is truth. Truth must be at the center of any scientific investigation and medical practice. We are obligated continuously to seek the truth to fulfill the high moral good of healing the sick.

Second is the acknowledgment and acceptance of our own fallibility. Of course, this applies to all people, but especially to us. This acknowledgment also assumes our acceptance of self-imposed restrictions on our public and professional conduct. Our own fallibility must stimulate us to search for better ways, to rethink old concepts, and to seek help and guidance from within the profession.

Third is compassion. As I grow older, I have become more and more convinced that this characteristic is the answer to many of our troubles. As your mind revels in the joy of mastering the intellectual content and skill of our profession, remember that medicine is as much a matter of the heart and of character than of the latest journal article or new technology.

Fourth is public service. We are a service profession. As such, we must listen to our patients' needs and expectations. The days of paramount physician autonomy are being replaced by a more balanced trade-off with patient autonomy. This new situation requires that we carefully instruct and inform our patients regarding the pros and cons of procedures, treatments, lifestyles, and other factors necessary for informed decision making. Patient participation and cooperation in decisions will add meaning and joy to your professional life.

Our society hungers for physicians who speak the truth, who are humble, and who deal compassionately with those in need. Physicians who incorporate these values into their core being will have long and rewarding careers. This is my wish for you and for all those who serve.

A hearty welcome, colleague,

Dad

Paul F. Bowlin, director of medical affairs at Fairview Southdale Hospital, wrote this letter last spring when his son graduated from medical school. The letter is reprinted here with permission from the Fairview Southdale Hospital Medical Staff Newsletter.

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Heal Thyself

David L. Freeman, M.D.

For the physician, the greatest lesson may be found in personal illness. The fear of a steady chest pain, the disability of musculoskeletal injury, even the discomfort of a short-lived infection all may bring to the doctor new insights into the illnesses of his or her patients. But what of major depression? Can anything more than tragic impairment result from that experience?

> "Physicians are in a position to transform their own pain into healing skills of the highest order."

Two days after a routine hysterectomy, my beloved wife developed fever, abdominal pain, shock, obtundation, and cardiac arrest. Resuscitated, she endured five major abdominal procedures and, over six long weeks, remained barely alive with ventilator therapy, dialysis, pressor drugs, and cardiac monitors. She lay comatose, bloated, jaundiced, bleeding. She was impaled by thoracic tubes, abdominal drains, central venous lines, arterial catheters, and bladder drainage systems. Would she live? Would she ever be the same? Would the huge abdominal wound ever close? Would she gets AIDS from the blood transfusions? In time it became clear that my wife would survive, although the completeness of her recovery would long remain uncertain. She faced many hurdles of neurologic impairment, withdrawal from dialysis, weaning from respiratory therapy and tracheostomy, recurrent infection, and wound closure. After three months, she was transferred to a rehabilitation hospital; two months later, she recovered enough function to allow home care.

In the midst of this disaster, I became aware of a predicament peculiar to physicians. My wife had had her surgery in the hospital where I am a staff internist, indeed, where I had completed part of my training years before. Feeling compelled to rescue her, I helped to coordinate and to facilitate services, engaged specialists, humanized her for ICU staff, and kept up on the details of her therapy. In doing so, I did not permit myself to show frustration over my wife's tragic outcome; instead, I acted the role of the concerned, but detached, physician. Moreover, I maintained the routine at home, comforted my three distraught children, and continued my office practice for a few hours each day. However, I was swept with intense loneliness, anxiety, and sadness, which I throttled. My personal needs were forgotten, and sleep was impossible.

One morning I realized that I could not read from my own office notes, that a strange remoteness insulated me from patients, preventing me from absorbing information. With the generosity of my partners, I excused myself from the office for the next three months, hoping that I could get a grip on myself.

Now I began to think obsessively, even uncontrollably. I ruminated endlessly on previous periods of minor stress, which now seemed connected to my present emotional state, portraying me as a failure, someone not worthy of living. I became paralyzed, unable to prioritize even the most mundane tasks. I felt no normal emotion, only a diffuse, all-encompassing anxiety that drained me of will and energy. Physical pain afflicted me, and I diagnosed every symptom. When I felt chest pain, I had angina; abdominal pain meant pancreatic cancer; myalgias, fibrositis, and, worst, inability to concentrate became brain tumor. I lost weight, my blood pressure increased, and I felt continuously ill. Evaluations in the emergency room finally convinced me that these were symptoms of depression.

I sought psychiatric help. With psychotherapy assisted by medication, gradually over the ensuing weeks my sleep pattern improved, my anxiety lessened, and, in small ways, normal feelings began to return. As the depression receded, I realized that I could accurately remember the events, the disordered thinking, and the illness. I began to read about depression and to speak of it with my rabbi. We discussed the nature of family, love, and the human response to suffering in its many guises. I came to appreciate the universality of the experience through which I was passing. I found joy in the mere fact of my wife's survival, and I admired her steadfastness and optimism. I discovered a deeper bond with my family and friends. I enjoyed interests long dormant since the beginning of my busy career. I was more aware of my emotional dimensions, my capacity for love, and my life task of nurturing that love.

I returned to the office and to my patients, but with much trepidation. Could I be a doctor again? My patients stayed with me! They were solicitous, kind! I found the time for their own stories, and so much of what they told me was so familiar. Now I listened to tales of emotional anguish. I heard their sadness, their fear, their loss of purpose, their disappointment, and their grief with a newfound understanding. Human distress seemed to find a voice in my examination room where previously it had been muted, expressed only through a filter of common complaints of pain and fatigue. Most important, my responses seemed to find some personal resonance in and even therapeutic value for my patients. And so I learned that illness, even major depression, does not only impair the physician. Indeed, physicians, more than others, are in a position to transform their own pain into healing skills of the highest order. How much we can learn from our own sickness and treatment! I found that I had lived what Rabbi Harold Kushner had written about in his book, "When Bad Things Happen to Good People":

"I am a more sensitive person, a more effective pastor, a more sympathetic counsellor, because of [my son's] life and death, than I would ever have been without it. And I would give up all of those gains in a second if I could have my son back...but I cannot choose." MM

David Freeman practices in Newton, Massachusetts.

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COVER STORY

PATRICK O'LEARY, COURTESY OF RAMSEY COUNTY, 1988 ANNUAL REPORT

Patients Go HOME for Care

But Do Their Doctors Make House Calls?

• • • • •

Tom Teigen

Caring for a patient at home no longer consists simply of a black bag and a stethoscope warmed in the physician's palm. No longer is it a quarantine sign the physician tacked up on the front door, or a thermometer and an injection of penicillin. Today, taking care of a patient at home often involves sophisticated equipment, a highly trained staff of nurses and allied professionals, and a set of skills and a body of knowledge with which many physicians are neither familiar nor comfortable.

For the past several decades, the house call appeared to be going the way of the Ford Edsel, but economic and technological progress have revived home health care—now a rapidly growing industry. Health Care Financing Administration (HCFA) statistics show home care charges are growing an average of 20 percent each year.[1] The Joint Commission on Accreditation of Healthcare Organizations (JCAHO) began reviewing home care programs three years ago. Today, home care is the second largest of the JCAHO's five divisions, with home care agencies accounting for 80 percent of first-time accreditation applications, according to Anne Rooney, R.N., director of Home Care Accreditation Services. A recent national survey showed that 48 percent of patients under the care of general internists and 44 percent under the care of family physicians require some form of home care after discharge from the hospital, said Joanne Schwartzberg, M.D., director of the Department of Geriatric Health at the American Medical Association (AMA).

In Minnesota, 276 agencies are registered with the Department of Health to perform medical services in the home. Approximately 40 percent of those organizations are associated with public health nursing agencies around the state. The remainder are hospital-based, free-standing proprietary or private nonprofit organizations, according to the Minnesota HomeCare Association.

The trend toward home care will continue as baby boomers age and the government seeks ways to control health care costs. Few large-scale studies have documented cost comparisons between home care and comparable institutional care. But home care is estimated to reduce the cost of care from 25 percent to 50 percent, depending on the type of treatment. For example, home nutrition infusion therapy may cost $300 to $350 a day, while per diem cost in a community hospital averages $789, according to the Washington-based Health Insurance Association of America, a trade group of 320 commercial health insurers. A local study on home Heparin infusion for deep vein thrombophlebitis documented 48 percent savings over comparable treatment performed in a hospital setting.[2]

Federal and state legislators are beginning to recognize the potential savings inherent in home care. In fiscal year 1988, Minnesota spent roughly $18 million for home care under Medical Assistance. That figure jumped to $25 million for 1989, and billings so far for fiscal 1990 exceed $45 million. But while Gov. Arne Carlson's recent budget proposal maintains funding for home care of the elderly and dependent children, it does not recommend funding for home care as an alternative to hospitalization for such care as intravenous treatment.

At the federal level, home health care is a principal component of five current pieces of long-term care legislation. That legislation hangs in limbo while the federal government wrestles with the budget deficit, but all indications are that future federal programs for long-term care will include funding for home care.

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This growing acceptance of home care has occurred without a great deal of physician involvement. A combination of technological, social, economic, and legislative forces has reduced physicians' home visits since the 1940s and minimized their role in home care's current renaissance. Advances in technology created a concentration of diagnostic and therapeutic equipment in hospitals and clinics. Economic expansion put a car in every garage, making travel to and from clinics more convenient. Legislation that created economic barriers for physician involvement in home care—including poor reimbursement and limits on home care agency ownership—further reduced the house call's importance. Additionally, the litigious atmosphere prevalent in the United States has forced physicians to practice preventive medicine, fostering a growing dependence on expensive diagnostic and monitoring equipment and consultations with specialists. Consequently, as many as 40 percent of family physicians and general internists make no house calls; between 80 percent and 90 percent make fewer than one house call per month.[3]

Some of the factors that caused the demise of the house call are now aiding its comeback. Advances in technology have made high-tech equipment more portable, resulting in safe and convenient in-home treatment of many acute and subacute conditions. The implementation of the diagnosis-related groups system in 1983 established incentives for hospitals to discharge patients more quickly, which created the need for more advanced home care and, consequently, the need for greater physician involvement.

"Home care has really developed from a nursing kind of intervention to one that includes a great deal of medical intervention," said Joseph Keenan, M.D., president of the American Academy of Home Care Physicians (AAHCP) and assistant professor of Family Practice and Community Health at the University of Minnesota Medical School. "Most high-tech home care consists of services that were formerly done in hospitals with physicians seeing their patients every day."

This progression, however, has led to what the American Medical Association's Council on Scientific Affairs described in a recent report as "a serious lack of medical leadership and participation at a time when home health care is experiencing an important renaissance."[1]

That report, called "Educating Physicians in Home

Health Care," listed four primary barriers to greater physician involvement in home care: 1) poor reimbursement, 2) time inefficiency, 3) medical liability, and 4) concern over the provision of quality care without all the amenities of a hospital or clinic at hand.

Reimbursement

Perhaps the most formidable of the four barriers is reimbursement. Although most third-party payers reimburse physicians for medically necessary house calls, the time spent as a consultant and adviser for care given in the home—writing orders and doing follow-up phone calls and paperwork—is not yet reimbursed by the vast majority of payers. Of course, physicians are no strangers to gratis consultations and paperwork. According to Keenan, a national survey of family physicians and internists indicated that the average physician in these specialties spends two to three hours each week on non-reimbursable telephone calls and paperwork.

"Physicians have not been in the habit of charging for that activity, and Medicare has not been in the habit of paying for it. That reinforces not charging for it," Keenan said.

HCFA has maintained that such activities are part of the service reimbursed under charges for physician visits and should not represent a separate charge. The problem arises in home care when the physician has little or no face-to-face contact with the patient, but may spend a significant amount of non-billable time managing the patient's home care.

"There is an increasing number of cases now where the patient hasn't been into the doctor's office, so there isn't any original fee," Keenan said. "And patients may go through whole episodes of care without the physician ever seeing them."

COURTESY OF HOSPITAL HOME CARE

As AMA's Schwartzberg points out, "If one of every 10 patients currently being treated by an internist is in home care, that's a significant amount of care not being reimbursed."

Although none of the major legislative home care proposals includes reimbursement for physicians beyond current patterns, and the federal deficit makes any improvements unlikely, both the AMA and the AAHCP have made physician reimbursement a legislative priority for 1991.

In the meantime, the AMA has developed seven CPT codes to cover management services, including everything from brief telephone calls to longer consultative meetings.[4] Although reimbursement under these codes is far from certain, third-party payers are beginning to pay some of these charges.

Minnesota's Medical Assistance program will not reimburse time spent on the phone or paperwork (codes 98920 through 98922). It will, however, compensate physicians for 30-minute and 60-minute conferences with the patient, relative or guardian, or the interdisciplinary team (codes 98900, 98902, 98910, and 98912), provided the conferences are conducted in person.

"These services need to be documented. They need to be patient-specific. They need to enhance the care plan and communicate specific treatment involved in that plan," said Nancy McMorran, policy consultant for the Minnesota Department of Human Services Health Policy Section.

At the federal level, HCFA has indicated that the resource-based relative value scale (RBRVS) "will more fully recognize [physician] services" through the work component of the Medicare reimbursement formula. Under RBRVS, physicians will most likely be reimbursed for case management conferences and time spent with the patient but not for time spent on phone calls and administrative tasks. According to HCFA, reimbursement for those functions would be reflected in the resource aspect of the formula.

But even under the current system, one Medicare fiscal intermediary in Washington state has begun paying some management and consultation charges, according to Keenan. "So there is a precedent," he said.

Some private home-care companies are reimbursing physicians for time spent managing their patients' home care, although payment for services must be carefully arranged to avoid the appearance of impropriety.

"The physician payment should not be tied to a percentage of what is given to the patient. That would be a 'kickback,' " said Khalid Mahmud, M.D., medical director of CareVan Medical Systems Inc., an Edina-based home care agency that provides payment for physician time spent managing home care patients. "They are management fees, like the management fees [physicians] would receive if they put a patient in the hospital," he said.

The fees are minimal, about half the daily fee a physician would receive for a patient in the hospital, according to Mahmud. Compensation is linked to the acuity level of the patient in that the physician receives a fee only for the days the agency's nurse makes a house call. It is assumed that on those days the physician participates in the patient's care to some degree—consulting with the nurse on the patient's progress, writing orders, and documenting actions. CareVan also pays physicians a nominal fee when they make house calls.

Despite these improvements, much of a physician's home care work remains uncompensated, and the immediate future promises little relief.

Inefficiency

Inefficiency is primarily a reimbursement problem as well, according to Mahmud, who says physicians often find they spend too much non-reimbursable time on the phone, doing paperwork, traveling to and from house calls, and negotiating with third-party payers. To address the problem, home care agencies often act as service coordinators, reducing the physician's administrative time commitment. Some agencies may even handle the insurance paperwork for prior authorization, which in itself can take several hours.

"It can be very time consuming to convince an insurance company that [home care] is going to save them several thousand dollars," said Jack Strobel, M.D., of Oakdale Pediatric and Adolescent Consultants Ltd. Strobel, who has admitted patients to both independent and hospital-based home care agencies, said his staff recently spent three hours on the phone working their way up through the ranks of an insurance company until they found someone who would authorize home IV treatment for a patient.

Medical Liability

Fears of medical malpractice suits arising from home care treatment seem to be based on a general apprehension, rather than a history, of lawsuits. Very few malpractice suits have originated from home care cases, according to the Council on Scientific Affairs' report, which said, "So far, medical liability associated with home health care has been more of a theoretical rather than a real problem. ... Legal actions against physicians for home health care are virtually nonexistent to date."

BILL STANTON, FIRTH PHOTOBANK

Nonetheless, the pervasive dread of facing a malpractice suit makes physicians hesitant to participate in home health care, according to William Kennedy, M.D., a member of the AMA's Council on Scientific Affairs and professor of neurology at the University of Minnesota Medical School. "When you leave your office or hospital—where you have at your disposal not only technology but other people who are knowledgeable in areas you are not—you feel less able to deal with unforeseen things," he said.

Conversely, the very nature of home care may be one reason for the low incidence of malpractice suits. A well-established relationship with a patient is viewed by many as one of the best defenses against malpractice suits, and home care demands the development of such relationships with both the patient and family.

"That's why [home care] is almost an antidote to malpractice," said Keenan. "Home care doctors are seen as very caring and involved, and families don't want to alienate that sort of person. When you go to the trouble of arranging the care in their home and involving them, they seem not to be very litigious."

Kennedy, however, is not completely convinced by that argument. He suggests that the low number of malpractice suits may be due to the fact that, compared with the number of patients hospitalized to date, relatively few patients have received medical care in their homes.

Concern for Quality of Care

Many physicians have concerns about quality of care when moving a patient from a tightly controlled hospital or clinic setting to the home. Such a shift involves more than just technology and access to nursing and specialist support. Everything from the sterile setting to the availability of balanced meals must be considered.

But home health care, when properly prescribed and supervised, may offer some quality advantages as well as cost savings. Some studies indicate that home care has less risk of such iatrogenic complications as nosocomial infections, medication errors, and accidents. That, along with the less tangible emotional and psychosocial benefits of allowing the patient to stay home, is convincing many people that home care should have a more prominent role in patient care.

The rapid expansion in home care possibilities has exacerbated concerns about quality of care and strengthened the call for more physician participation. Currently, a wide range of conditions can be treated in the home, from high-risk pregnancies to Alzheimer's disease, advanced malignancies, and postoperative infections. More terminally ill patients are receiving care at home as well, through hospice programs that offer emotional, physical, and spiritual support to patients and their families.

"As we use more ambulatory care and less hospital care, we see home care assuming a more important role," said William Jacott, M.D., a member of the AMA Board of Trustees and assistant vice president of Health Sciences at the University of Minnesota. "And as we increase that role, we get concerns about quality and concerns about efficiency. That's why physician involvement has become significant."

The first step in assuring quality in home care begins with making appropriate referrals. The patient should be medically stable, with less need for expensive monitoring equipment and less likelihood of emergency intervention, according to the AMA's Council on Scientific Affairs report, which says the patient's home must be assessed for safety and functionality. "Even the neighborhood should be evaluated for transportation and shopping access, safety, and other social supports," the report states.

Traditional medical education trains physicians in diagnosis and treatment, said Keenan, but physicians must make some adaptations when providing home care. "Still, it's a parallel set of decisions that physicians make in other settings. It's just that in the home setting, there are a few more variables to keep in mind," he said.

Typically, physicians are not well-informed about available community resources and home care's various funding options and most need more skill in assessing the patient in the context of home care, Keenan believes.

> "Home care has really developed from a nursing kind of intervention to one that includes a great deal of medical intervention."
>
> *—Joseph Keenan, M.D.*

Re-educating Physicians

Physician training and practice patterns tend to exclude home care, according to Keenan, who believes the lack of home care education in medical schools has further reduced its practice.

Recognizing this shortfall, the AMA's Council on Scientific Affairs recommended that medical schools "teach the science and art of home health care" to undergraduate and graduate students, particularly in family practice, general internal medicine, pediatrics, obstetrics, general surgery, orthopedics, physiatry, and psychiatry. The council also recommended programs to increase practicing physicians' awareness of home care alternatives.[1]

Such training is becoming part of graduate and fellowship training program accreditation, according to Keenan, who participated in a federal grant program at the University of Minnesota's Department of Family Practice three years ago. Under the grant, the department developed a home care curriculum—including goals and objectives, teaching strategies, and evaluation standards—for family practice residents. The curriculum has been disseminated to more than 20 residency training programs.

Two of the medical school's five training units have formally incorporated the home care curriculum into their programs. The others, says Keenan, have been influenced by it. "The main problem is faculty development and change," he said. "If a faculty person isn't comfortable teaching a certain subject or hasn't experience with it, he or she is reluctant to change."

To address this problem, the university offers a geriatric fellowship program that accepts as many as four faculty members and trains them in both clinical and academic aspects of home care. "The idea is to teach the teachers about home care," Keenan said.

Home Care as a Specialty

In the majority of cases, admitting a patient to home care is similar to admitting a patient to the hospital. The attending physician maintains control of and responsibility for his or her patient. Besides the medical director, most agencies do not have their own physicians on staff. Home care agencies that provide medical or hospice care are required to have a medical director, according to regulations that will be published this spring by the Minnesota Department of Health. Orders are signed by the physician and carried out by the agency's staff. But as the use of home care grows, likely involving care that requires more intensive medical supervision, a niche may emerge for home care specialists.

"We have no physicians as yet working in our organization," said Davitt A. Felder, M.D., medical director of Health One Home Care and Hospice. "But I see in the future that we'll have physicians who will stand in for the patient's primary physician—in consultation with that physician, but always with the primary physician in control."

As the industry evolves, agencies may use staff physicians to meet market demand. Just as some agencies have expanded service to handle the administrative work related to home care, staff physicians may become available for the routine follow-up work when the attending physician is unavailable. Or, hoping to develop specialty niches in high-tech areas, the agencies may use staff specialists as consultants for referring physicians.

Whether physicians will eventually specialize in home care remains to be seen, but the emerging importance of home health care is clear.

"As time goes on," predicts CareVan's Mahmud, "only the hyper-acute conditions are going to be treated in the hospital." MM

Tom Teigen is a free-lance writer living in Minneapolis.

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Chronic Fatigue Syndrome in Minnesota

*Phillip K. Peterson, M.D., Carlos H. Schenck, M.D.,
and Robert Sherman, Ph.D.*

ABSTRACT

Chronic fatigue syndrome (CFS), an illness characterized by debilitating fatigue and a number of associated symptoms, was identified in 135 patients using the case definition provided in 1988. The demographic features of these patients, 97% of whom resided in Minnesota, were similar to those reported elsewhere. About three-fourths of the cases occurred between 1984 and 1989, and in 123 (91.1%), the illness began with what appeared to be an acute infection. Patients had been ill for an average of 4.3 years before enrollment in the study. Fatigue was their most troublesome symptom, although a majority of the patients rated most of the general symptoms and neuropsychological complaints associated with CFS as moderate or severe. Follow-up data obtained on 62 patients one year after initial evaluation revealed that none had completely recovered. However, about 40% reported some improvement in each of the CFS symptoms.

> *"Again, it is not on the symptom itself so much as its severity, duration, and associations that we base our diagnosis."*[1]

The case definition of chronic fatigue syndrome (CFS) was first reported in March 1988.[2] According to the case definition, a diagnosis of CFS requires: 1) history of an illness at least six months in duration, characterized by debilitating fatigue and a specified number of accompanying symptoms, and 2) exclusion of all other medical and psychiatric disorders that are known causes of chronic fatigue. Although the name of the illness and the case definition of CFS are relatively new, many investigators believe that previously described syndromes or epidemics, such as chronic mononucleosis syndrome,[3,4] chronic Epstein-Barr virus infection,[5-7] post-viral fatigue syndrome,[8] epidemic myalgic encephalomyelitis,[9] and fibromyalgia,[10] are closely related, if not identical, to CFS.

The etiology and pathogenesis of CFS are currently unknown. Most cases begin with an acute viral-like illness, and although the risk factors are poorly understood, CFS appears to occur predominantly in young to middle-aged, well-educated Caucasian women.[4] Following several reports implicating Epstein-Barr virus as the causative agent,[5,6] researchers determined that this virus is not responsible for most cases of CFS.[11,12] Other investigators have provided evidence that a chronic enteroviral infection is of etiologic importance,[13,14] and, based upon reports of a number of immunological abnormalities in patients with CFS,[15-23] an immunoregulatory disorder has been thought to play a pathogenetic role. Predisposing psychiatric disorders or certain personality traits also have been regarded as contributing factors.[4]

In July 1988, the Hennepin County Medical Center established a CFS research program for characterizing the demographic and clinical features of CFS patients in Minnesota and investigating the pathogenesis of the syndrome. This report describes the demographic features and severity of symptoms in 135 patients evaluated during a two-year period who fulfilled the CFS case definition. One-year follow-up data are provided on 62 of these patients.

Methods

To identify patients with CFS, the Hennepin County Medical Center instituted a chronic fatigue clinic in July 1988. Patients who reported six or more months of unexplained fatigue as their principal symptom were eligible for evaluation in this clinic. The establishment of our CFS research program was announced to infectious disease specialists and rheumatologists in the Minneapolis/St. Paul area, the Minnesota Department of Health, and the CFS Association of Minnesota, which informed its patient members of the program.

A diagnosis of CFS was established after thorough medical, psychometric, and psychiatric assessments did not establish another explanation for chronic fatigue, and the other criteria for a case definition of CFS were met.[2] The psychometric assessment consisted of three standardized questionnaires (Beck Depression Inventory, Zung Self-Rating Anxiety Scale, and Symptom Checklist-90). Patients who had elevated scores on any of these tests, in reference to published norms, were interviewed by a psychiatric coinvestigator (CHS) to determine whether a DSM-IIIR psychiatric diagnosis could explain the patient's fatigue; if so, the patient was excluded from the CFS research program. In addition to identifying fatigue as their principal symptom, patients given a CFS diagnosis had to have experienced at least eight of the following 10 CFS-associated symptoms more than once, or persistently, for at least six months since their illness began: 1) muscle pain, 2) joint pain, 3) sore throat, 4) muscle weakness, 5) painful lymph glands, 6) fever (99.4-101° F), 7) headache (more severe than before the illness), 8) sleep disturbance (insomnia or excessive sleeping), 9) prolonged generalized post-exercise fatigue (for more than 24 hours after levels of exercise easily tolerated before the illness), and 10) one or more neuropsychological complaints (forgetfulness, confusion, depression, inability to concentrate, excessive irritability, photophobia, or visual floaters).[2] Patients were asked to rate the severity of each of these symptoms using a four-point scale: not present, mild, moderate, or severe.

About one year after the initial clinic visit at which a CFS diagnosis was made, the first 68 patients enrolled in the CFS research program were sent a self-report form asking them to respond to the following questions about their fatigue and each of the 10 other CFS-associated symptoms: 1) Are you back to normal health? (yes, no, I never had a problem with this symptom); 2) If not normal, how severe is the symptom now? (mild, moderate, severe); and 3) If not normal, estimate the overall change in the symptom during the past 12 months (much worse, somewhat worse, no change, somewhat better, much better).

Results

Between July 1988 and June 1990, 200 patients were fully evaluated in the chronic fatigue clinic. Of these patients, 135 (67.5%) fulfilled the criteria for a diagnosis of CFS. A majority of the CFS patients, 83 (61.5%) of 135, had been referred to the clinic by physicians, and the remainder were either self-referred (32 patients) or learned of the clinic through the CFS Association of Minnesota (20 patients). A sizable majority of the 135 CFS patients (88.1%) resided in Minneapolis, St. Paul, or their surrounding suburbs; 8.9% were from other areas of Minnesota; and 3% were from other states.

Table 1

Demographic features of 135 CFS patients

	Number of Patients	Percent
Female	107	79.3
Male	28	20.7
Age (years)	37.4 ± 10.2*	
Caucasian	134	99.3
Advanced education†	99	73.3
Vocationally disabled††	39	28.9
Years of illness	4.3 ± 5.1	
Other family members with CFS	7	5.2
Acute infection-like onset	123	91.1

*Plus-minus values are mean ± SD.

†College or university education, or formal vocational training after graduation from secondary school.

††Employed prior to CFS; currently unemployed because of CFS.

Demographic features of the 135 CFS patients are given in Table 1. About 80% were women. The average age at the time of diagnosis was 37.4 years (range, 13-74 years). Seven patients (5.2%) were younger than 21 years old, and only three (2.2%) were 60 years of age or older. One patient was Native American; all others were Caucasian. As a group, the patients were highly educated; however, 39 patients (28.9%) who had been employed prior to their illness reported that they were currently unemployed because of CFS. At the time of diagnosis, patients had been ill for an average of about four years. Twelve patients (8.9%) had been ill for 10 or more years. Only seven of the 135 patients had other family members with CFS: a husband and wife, a mother and daughter, a mother and son, and a mother and two sons (neither of these two sons was enrolled in our research program).

In 123 (91.1%) of the 135 patients, CFS began with what appeared to be an acute infection. Viral-like infections, either acute upper respiratory tract infections (in 72 patients) or infectious mononucleosis (in 33 patients), appeared to precipitate most cases of CFS. Other infections or infectious disease-like illnesses included four cases of acute gastroenteritis (one due to *Campylobacter jejuni*, one following hemorrhagic diarrhea due to *Escherichia coli* 0157:H7, and two of unidentified etiology); three cases of pneumonia; five cases that were considered possible atypical Lyme disease; and one case each of hepatitis, mesenteric adenitis, aseptic meningitis, cystitis, group A streptococcal pharyngitis, and fever of undetermined origin. The years of onset of the 135 cases are shown in Figure 1. A preponderance of the

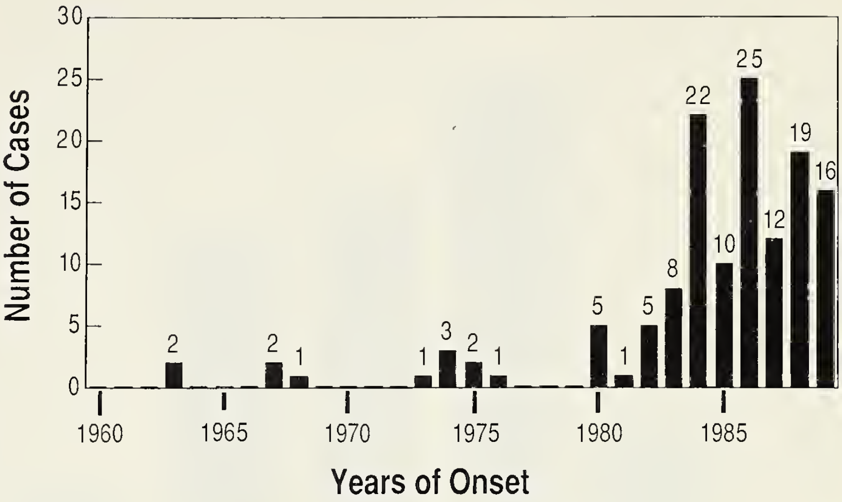

FIGURE 1—Year of onset of CFS in 135 cases.

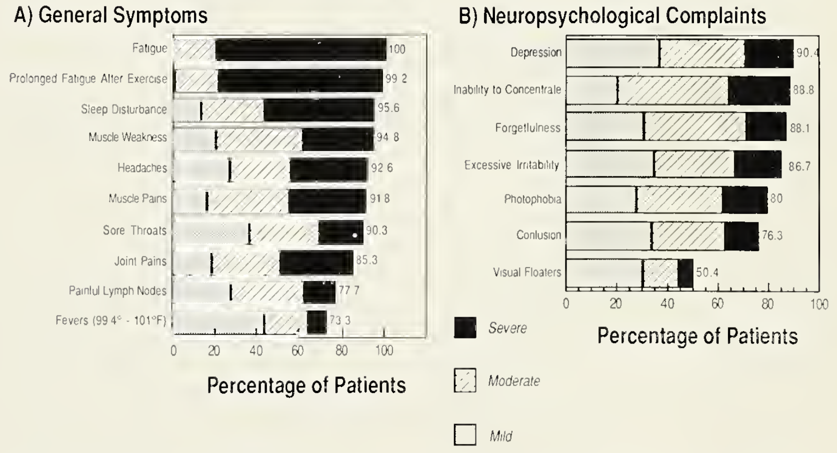

FIGURE 2—Severity of general symptoms (A) and neuropsychological complaints (B) in 135 CFS patients.

cases (76.2%) occurred between 1984 and 1989. Only 12 cases (8.9%) had an onset prior to 1980.

By definition, all 135 CFS patients reported six or more months of fatigue, and most indicated that each of the other 10 CFS-associated symptoms had been a problem during at least six months of their illness (Figure 2A). Of all the symptoms, fatigue and prolonged fatigue after minimal exercise appeared to be most troublesome (more than 75% rated these symptoms as severe); however, a majority of patients rated most of the other general symptoms and neuropsychological complaints as moderate or severe. Although fatigue was identified as the most troublesome symptom by all 135 patients, 46 (34.1%) reported that prolonged fatigue after minimal exercise was their most prominent symptom, and 11 (8.1%) considered one or more musculoskeletal symptoms (myalgias, muscle weakness, arthralgias) equal to fatigue as a problem. Before developing CFS, all 135 patients participated regularly in one or more of these physical activities: walking, bicycling, aerobics, swimming, jogging, hiking, and racquet or team sports; 121 patients (89.6%) considered their ability to engage in these activities to be "decreased a lot." During the six months preceding the initial visit to the chronic fatigue clinic, 62 (46%) of the 135 patients responded that on an average day they could walk less than three blocks before becoming exhausted, and only 5 (3.7%) could walk more than three miles (Figure 3).

All 135 patients reported having at least one of the neuropsychological complaints associated with CFS (Figure 2B). Of the 135 patients, 65 (48.1%) had elevated scores on one or more of the three psychometric screening tests and, thus, underwent psychiatric assessment. In none of these cases could a DSM-IIIR psychiatric diagnosis explain the patient's illness and depression, which, when present, was usually determined to be an adjustment disorder (reactive depression) precipitated by the typically acute onset of CFS. The mean (± SD) score on the Beck Depression Inventory for all 135 patients was 14.0 (±8.6), which is in the mild depression range. Suicidal ideation was not detected in any case.

Follow-up data were obtained on 62 (91.2%) of the first 68 patients who were enrolled in the CFS research program (Table 2). One year after the initial clinic visit when the CFS diagnosis was established, about 40% of the patients reported severe fatigue and post-exercise fatigue. In no case had these two symptoms completely abated during the preceding 12 months. The other CFS-associated symptoms had resolved in only a small percentage of patients (from 1.6% to 15.3%); however, about 40% of patients reported improvement (somewhat or much better) of each of the symptoms, including fatigue and post-exercise fatigue. Of those who had not improved, only about 10% to 20% reported worsening of symptoms (somewhat or much worse).

Discussion

The results of this study indicate that patients with CFS in Minnesota are similar to those described elsewhere.[4] In a majority of our 135 cases, the illness began with an acute viral-like infection; however, in a distinct minority of cases, the onset was temporally associated with another type of infection or was insidious in nature. Interestingly, a marked increase in the number of cases appears to have occurred in Minnesota in 1984, about the same time that several outbreaks were being reported in other areas of the country.[5,6,11] The demographic

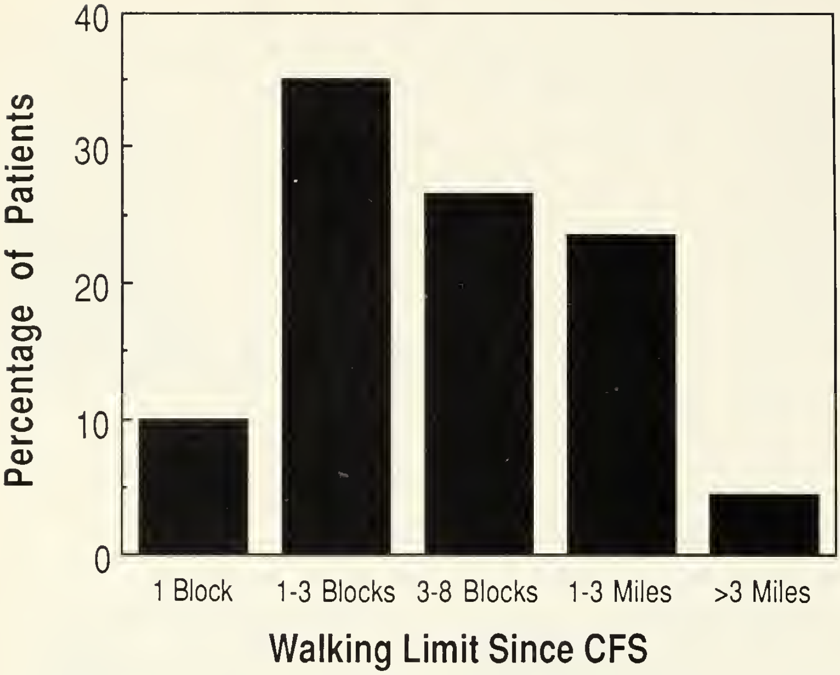

FIGURE 3—Limitation of walking before becoming exhausted reported by 135 patients (for an average day during the six months prior to evaluation in the chronic fatigue clinic).

features of our patients are remarkably similar to those described in the literature,[4] although in some series, larger numbers of children and a higher prevalence of cases within the same household have been recognized.[9]

This study also demonstrates that the case definition of CFS[2] can be used to identify a sizable group of patients with fairly uniform clinical characteristics for participation in research studies. Currently, designation of the illness as chronic fatigue syndrome seems appropriate: the condition certainly is chronic (our patients' average duration of illness was 4.3 years, and none of the 62 patients surveyed had fully recovered one year after enrollment in our research program); fatigue is the most troublesome symptom, and prolonged fatigue after minimal exercise is almost a *sine qua non*; and our patients reported experiencing a large number of moderate to severe symptoms associated with the syndrome during at least six months of their illness. Unfortunately, the terminology is already confusing, but as more is learned about the pathogenesis of CFS, the name of this illness will likely change.

Several recent studies that were initiated before the case definition of CFS appeared suggested that depression was the most common cause of unexplained fatigue in a primary care clinic setting.[24,25] Thus, it's important to note that 135 (67.5%) of 200 patients evaluated in our clinic did not have fatigue that could be ascribed to depression. Our clinic was instituted after the case definition of CFS appeared, and many of our patients were referred by physicians who either sought confirmation of the CFS diagnosis or wanted to enroll their patients in our CFS research program. Although depression was a common symptom in our CFS patients, and it seems likely that all patients with this illness are depressed at some point after its onset, assessments by the investigators who interviewed the patients, along with the psychometric scores, revealed a striking disparity between generally mild depression and severe fatigue. Also, primary psychiatric depression does not present with the constellation of general medical symptoms that accompany CFS, e.g., myalgias, arthralgias, sore throats, low-grade fever, painful lymph glands, and prolonged fatigue after minimal physical exertion. Finally, the usual abrupt onset of CFS following an acute infection-like episode speaks against a somatoform disorder.

Although rating the severity of symptoms may be useful in diagnosing CFS and in defining its natural history, assessment of functional severity (impairment of the ability to work or attend school, to participate in physical activities, and to go out socially) is critically important. Recent studies in our CFS research program indicate that many patients with this illness have marked functional limitations (Lurie NL, Schenck CH, Sherman R, Hertle P, Peterson PK: Functional status of patients with chronic fatigue syndrome. Submitted for publication).

A specific diagnostic laboratory test for CFS is sorely needed, as is an understanding of the etiology and pathogenesis of the illness. Most important is the need for a therapeutic modality that will relieve the most troublesome symptom of patients with CFS, namely, their sense of exhaustion, which is markedly exacerbated by physical activity. To date, only two placebo-controlled trials, of acyclovir[26] and of intravenous immunoglobulin,[27] have been reported, and therapeutic benefit was not found in either study. In the meantime, the best therapy is careful listening, and when appropriate, use of medications for CFS-associated symptoms. **MM**

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Table 2

Symptom ratings of 62 CFS patients one year after diagnosis

	Severe at present (percent)	Change during past 12 months (percent)					
		Much worse	Somewhat worse	No change	Somewhat better	Much better	Back To normal
Fatigue	42.6	6.6	16.4	36.1	23.0	18.0	0
Post-exercise fatigue	41.0	6.6	19.7	36.1	31.1	6.6	0
Muscle weakness	12.1	3.4	18.6	39.0	27.1	10.2	1.7
Sleep disturbance	18.3	3.3	16.4	41.0	26.2	9.8	3.3
Headaches	24.6	5.2	12.1	36.2	32.8	1.7	12.1
Muscle pains	28.1	3.4	19.0	36.2	17.2	17.2	6.9
Sore throats	14.0	0	8.8	43.9	22.8	12.3	12.3
Joint pains	23.6	7.0	14.0	38.6	17.5	15.8	7.0
Painful lymph nodes	12.0	2.0	9.8	43.1	23.5	19.6	2.0
Fevers (99.4°-101° F)	6.7	0	8.7	47.8	8.9	15.2	19.6
Depression	3.4	1.6	8.1	32.3	21.0	22.6	14.5
Inability to concentrate	21.1	6.9	15.5	32.8	27.6	15.5	1.7
Excessive irritability	14.3	3.6	10.7	37.5	26.8	14.3	7.1
Forgetfulness	18.5	5.5	18.2	21.8	40.0	10.9	3.6
Confusion	15.1	1.9	18.5	35.2	27.8	13.0	3.7

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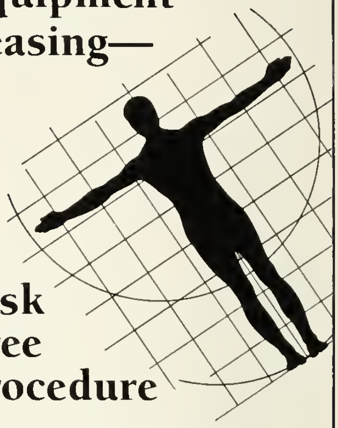

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Group G Streptococcal Purulent Pericarditis

A Case Report

Kathryn C. Halverson, M.D., Linda L. Van Etta, M.D.
and James H. Langager, M.D.

ABSTRACT

We report one of the first two cases[1] of group G streptococcal purulent pericarditis in the medical literature. Our experience illustrates that outcome for patients with this serious group G streptococcal infection may be poor. Failure of single-drug antibiotic therapy can occur, and we conclude that aggressive drainage and combination antibiotics are the most appropriate response to this potentially fatal infection.

Report of a Case

A 66-year-old white man presented with a two-week history of mild headache, anorexia, malaise, light-headedness, drenching night sweats, and pleuritic chest pain. His medical history was significant for remote myocardial infarctions with occasional exertional angina.

On exam, the patient was mildly confused and flushed. His blood pressure was 120/62 mmHg without paradox. Heart rate was 120 beats per minute and irregularly irregular. Temperature was 38.2° C, and respirations were unlabored. Rales were auscultated at the right base with E to A changes and decreased fremitus. The patient had no hepatojugular reflux or pulsus paradoxus. A loud friction rub was clearly audible over the precordium.

A complete blood cell count revealed 9,500 white blood cells with 86% segmented neutrophils, 2% bands, 8% lymphs, and 4% monocytes. Hemoglobin was 10 g/dL with an MCV of 87 fl. Arterial blood gases on 4 liters of oxygen showed a pH of 7.46, PCO_2 of 40 mm/Hg, a bicarb of 29 mEq/L, and PO_2 of 80 mm/Hg. The patient's erythrocyte sedimentation rate was 105 mm/hr. Rheumatoid factor, FANA, and hepatitis B surface antigen were all negative. PPD (5-TU) was negative. Blood cultures were negative.

The electrocardiogram showed new atrial fibrillation with right bundle branch block. Echocardiogram showed a moderate-sized pericardial effusion with an area of apical hypokinesis.

On the day of admission, the patient was taken to surgery, where 900 cc's of cloudy yellow fluid was drained from his pericardium. Pericardial fluid culture grew beta hemolytic streptococcus (group G by Phadebact typing), which was sensitive to penicillin, cephalosporins, aminoglycosides, and sulfa drugs. The patient was treated with penicillin G sodium, 5 million units intravenously every six hours, intermittent suction of the pericardial cavity, and indomethacin. His fever resolved.

After seven days, no further pericardial drainage was noted, and the pericardial catheter was removed; however, five days later, a repeat echocardiogram revealed that the fluid had again accumulated. A liter of fluid was drained and the pericardial catheter was left in place. Culture of this fluid again grew group G streptococcus. The patient's antibiotics were changed to 500 mg of vancomycin intravenously every six hours and 300 mg of rifampin orally twice daily.

During the hospitalization, the patient experienced crescendo angina. On the 23rd hospital day, he suffered a cardiopulmonary arrest. Resuscitation was unsuccessful.

Postmortem examination revealed a large, flabby heart with myocardial fibrosis and an irregular gray area of fibrosis in the posterior wall. The patient's coronary arteries were severely atherosclerotic with recent thromboses of both right and left coronary arteries. The pericardial cavity was free of fluid, but the parietal surface was 1 cm thick and covered with a yellow fibrinous material. No loculations or sequestered areas of pus were found.

Discussion

Purulent pericarditis is a well-documented disease. It classically has occurred in male patients ages 10 to 50 with acute onset of fever, night sweats, rigors, dyspnea, cough, and chest pain that may be precordial or pleuritic.[2-4] Clinical findings may include fever, tachycardia, friction rub, pulsus paradoxus, hypotension, pulse pressure less than 25 mm/Hg, increased central venous pressure, jugular venous distention, and hepatomegaly.[2,3] Occasionally, presentation and findings may be subtle and the diagnosis difficult unless purulent pericarditis is suspected.

Abnormal laboratory studies may include leukocytosis. Chest X-ray frequently shows cardiomegaly, often with underlying pneumonia, empyema, pleural effusion, or widening of the mediastinum.[2,3] Electrocardiogram reveals nonspecific ST-T wave changes, including diffuse ST-wave elevation, T-wave inversion, low QRS voltage, or electrical alternans.[3] Echocardiogram reveals pericardial fluid with or without adhesions or loculations. By the time pericarditis is clinically detected, the fluid is often grossly suppurative.[3]

Risk factors associated with purulent pericarditis include preexisting aseptic pericardial effusion,[3] recent transmural myocardial infarction,[4] bacterial endocarditis,[2,4,5] myocarditis,[2] upper-respiratory infection,[4] uremia,[4] malignancy,[2,4] immunosuppression,[2,4,6] recent thoracic surgery, [2,4] or other systemic infections.[4] The usual pathogenesis involves hematogenous seeding of the pericardium, lymphatic extension, or direct spread.[2-4] Mortality is as high as 80%.[2]

An increase in group G streptococcal infections has been reported in the medical literature over the last two decades. Cases remain infrequent, however, accounting for only 1% to 10% of all beta hemolytic streptococcal infections and only 0.3% of all bacteremia.[5-7]

This organism is endogenous to humans, inhabiting primarily the oropharynx, skin, vagina, and gastrointestinal system.[6,8,9] Group G streptococcus is well-recognized as an important cause of outbreaks of pharyngitis similar to those caused by group A strep.[10,11] These infections are generally community acquired, as opposed to hospital acquired, and also frequently involve the skin. Cases of neonatal sepsis, meningitis, post-streptococcal glomerulonephritis, peritonitis, empyema, otitis media, septic arthritis, and endocarditis have also been reported.[5,6,8,9,12,13] Up to 80% of patients with serious group G streptococcal infections have an associated bacteremia.[5,8] The onset of endocarditis is generally acute, and the endocarditis can rapidly progress to valvular destruction and hemodynamic compromise.[5,6,13]

Seventy percent of patients with systemic group G streptococcal infection have a serious underlying disease such as malignancy, renal failure, vascular insufficiency, or valvular heart disease. Overall mortality for group G streptococcal infections of any site is 30%, but rises to 70% to 80% with endocarditis.[2,5,6,9] Fatalities are not always attributed to antibiotic failure, but to the underlying disease process that initially rendered the patient vulnerable to the infection.[8,9,14]

Treatment for group G streptococcal infection generally consists of penicillin G with or without another agent. Other single antibiotics that have been used include vancomycin hydrochloride, erythromycin, first-generation cephalosporins, azlocillin, piperacillin, or other beta lactam agents. [5,6] Combinations of antibiotics used include gentamicin with a beta lactam antibiotic, gentamicin with vancomycin, and rifampin with vancomycin.[5,6]

Response to antibiotic treatment has been variable for group G endocarditis and septic arthritis despite in vitro sensitivity of isolates to penicillin, ampicillin, cefotaxime, cefoxitin, and vancomycin.[5,7,9,10,13-15] A poor response should prompt a search for sites of infection needing drainage and/or addition of another antibiotic.[12] A number of studies recommend antibiotic combination therapy for all strep G endocarditis.[6,7,14] Because our patient's pericardial infection persisted in spite of seemingly adequate doses of penicillin, therapy was changed to vancomycin and rifampin after the second pericardial drainage. We suspect that the pericardial thickening prevented adequate amounts of the antibiotic from penetrating the infection site. Pericardiectomy may have eventually been necessary to eradicate this infection if the patient's coronary artery disease would have permitted it.

Conclusion

Group G streptococcus is an infrequent cause of potentially serious infections in a variety of sites, especially in the debilitated patient. This paper presents one of the first documented cases of purulent pericarditis attributed to group G streptococcus.[1] It illustrates that successful therapy can be difficult due to both the underlying disease and discrepancies between in vitro sensitivity and in vivo clinical response to a single antibiotic. Our experience confirms that aggressive drainage of abscesses and combination antibiotics are most likely indicated in treating this rare but potentially devastating infection. MM

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Medicare and Medicaid Fraud and Abuse Regulation

Hanlester Case Provides Hope for Joint Ventures

David Melloh, J.D.

Under the Medicare and Medicaid Fraud and Abuse Statute[1] it is illegal for any individual or entity to make false claims, to solicit or receive any remuneration in return for patient referrals, or to offer or pay any remuneration to induce referrals. The Fraud and Abuse Statute effectively prohibits compensation arrangements for referrals or for other items and services compensated by Medicare or Medicaid. Violations under the statute are premised on the willful or knowing solicitation, offer, payment, or receipt of "any remuneration" in return for, or to induce, the referral of a patient whose health care costs are paid at least in part by Medicare or Medicaid.

The statute contains both criminal penalties, including fines up to $25,000 and/or imprisonment up to five years, and civil money penalties up to $2,000 per item or service, plus an assessment against violators of up to twice the amount claimed for each such item or service.

Safe Harbors

Because the text of the Fraud and Abuse Statute is extremely broad and susceptible to more than one interpretation, both Congress and the Department of Health and Human Services (HHS) have attempted to provide guidance through statutory and regulatory "safe harbors"—definitions of conduct that does not violate the statute. The limited statutory safe harbors relate to discounts or reductions in price that are properly disclosed, if the discount is reflected in the costs claimed or charges made by the provider, payments to bona fide employees if such payments are made for Medicare-related items or services, and certain payments made to group purchasing organizations.

"Business arrangements involving providers and Medicare or Medicaid reimbursement will be subject to extreme OIG scrutiny."

HHS published proposed safe harbor regulations in January 1989 and made available "leaked" final safe harbor regulations in October 1990. If adopted, the leaked safe harbor regulations would permit, among other things, certain circumscribed physician investment, such as investment in publicly traded securities, or investment in entities that meet *all* of the following criteria:

- Persons in a position to make referrals (such as physicians) own no more than 50 percent of the investment interests in the provider entity;
- The entity generates no more than 50 percent of its gross revenue from referrals made by investors;
- The terms offered to all investors are equal, with no preference given to those investors in a position to make referrals;
- The terms offered to investors do not relate to past or expected referrals;
- An investor is not required to generate, or be in a position to generate, referrals to remain an investor;
- There is no explicit or implicit encouragement for a passive investor to make referrals;
- Passive investors who are in a position to make referrals have not been loaned money by the entity to acquire their ownership interest in the entity; and
- The return on capital is directly proportional to the capital invested.

The leaked safe harbor regulations describe several other types of conduct HHS considers legal under the statute, including certain space and equipment rentals, personal service and management contracts, sales of practices, referral services, warranties, discounts, employee payments, group purchasing organization payments, and waivers of co-insurance and deductible amounts. The safe harbor regulations that HHS ultimately adopts will likely resemble the leaked safe harbor regulations. Consequently, the final regulations will probably be equally narrow and relatively unhelpful to prospective physician investors.

Fraud Alert

The Fraud and Abuse Statute is enforced concurrently by the U.S. Department of Justice, which has exclusive authority to initiate criminal proceedings for violations of the statute, and the Office of Inspector General (OIG) of HHS. The OIG has authority to impose both civil penalties on violators of the statute and, subject to an administrative hearing, to exclude such persons from Medicare or Medicaid. The OIG has interpreted as its mandate the sweeping enforcement of the Fraud and Abuse Statute designed to prohibit physician business ventures that, in its interpretation, violate the statute.

In May 1989, the OIG issued a "Fraud Alert" to help identify "suspect joint ventures" that may violate the Fraud and Abuse Statute. According to the OIG, the following types of arrangements are fraudulent:

- Investment arrangements where investors are chosen because they are in a position to make referrals;
- Arrangements where investors are encouraged to maintain a certain level of referrals and are required to divest their investment if referrals are curtailed for any reason; and
- Arrangements where the physician-investor pays insubstantial amounts of capital into the investment, or where the risk to the physician-investor is inordinately small in relation to the expected or actual returns.

The "Fraud Alert" reflects the OIG's intensive efforts to police health care business arrangements involving physician investors. Until recently, it appeared that most courts addressing possible violations of the Fraud and Abuse Statute interpreted the statute expansively, requiring only that the prosecution demonstrate that physician payments were intended to induce physicians to direct their patients to certain facilities for treatment. For example, in the leading case interpreting the statute, *United States vs. Greber*,[2] the defendant, a physician, owned a company that provided physicians with diagnostic services. The company received payment for the services from Medicare and then transferred 40 percent of the fees to the referring physician as a "consulting fee." The court held that if the payments made to physicians were intended to induce the referrals, the Fraud and Abuse Statute was violated.[3] Specifically, the *Greber* court stated that the prohibition on "remuneration for referrals" extended beyond kickbacks to any payments made in return for services if the intent of such payments was to induce referrals.

In *United States vs. Kats*,[4] which may be the most prominent case decided after the *Greber* decision and before 1991, the court adopted the *Greber* court's interpretation of the statute. In the case, the defendant owned 25 percent of a clinic that sent its specimens to a laboratory for treatment. The lab then transferred 50 percent of the Medicare fees it received back to the clinic. The *Kats* court found that the Fraud and Abuse Statute was violated because one purpose of the payment to the clinic was to induce referrals. Under the *Greber* and *Kats* analysis, any business arrangements involving providers and Medicare or Medicaid reimbursement are suspect and will be subject to extreme OIG scrutiny.

A Glimmer of Hope

Taken together, the Fraud and Abuse Statute, the leaked safe harbor regulations, the judicial interpretations of the statute, and the OIG's approach to enforcement paint a bleak picture for physician business arrangements relating to referrals. However, an administrative law judge's recent decision in an OIG proceeding dealt a significant blow to the OIG's combative enforcement approach. This case represents not only welcome guidance in interpreting the statute, but perhaps more important, a compelling analysis of the statute that would permit far more physician investments than seemed probable or permissible under the OIG's enforcement regime.

> "The final safe harbor regulations will probably be relatively unhelpful to prospective physician investors."

In *The Inspector General vs. Hanlester Network*,[5] the OIG attacked an arrangement under which laboratories purportedly made payments to physician-investors for patient referrals. On March 1, 1991, a federal administrative law judge ruled that although three physician-owned laboratory partnerships had participated in conduct prohibited by the statute, no remedial purpose would be served by excluding any of the partnerships or physicians from the Medicare and Medicaid programs. The OIG contended that under the statute the basis of fraud is the act of *inducing* referrals, without regard to whether the offer to make payment to a party is "conditioned on the offeree's promise to refer program-related business." The judge took issue with the OIG's contention and pointed out that the OIG's interpretation of the Fraud and Abuse Statute would "threaten any joint ventures among health care providers whose structure and compensation formulas encouraged participants to refer business to the joint ventures even if such joint ventures do not require referrals as a *quid quo pro* for participation" in the joint venture.

Of course, as the *Hanlester* opinion points out, the OIG's interpretation of the Fraud and Abuse Statute has had a chilling effect on physician joint ventures, precisely because physicians entering into such ventures are now threatened with liability by the OIG. The OIG's prosecution of the parties in *Hanlester* was based on the following facts:

- Hanlester Network, a physician-owned partnership that served as general partner and promoter of various groups organized to develop laboratories, entered into an agreement with SmithKline Beecham Clinical Laboratories, Inc., under which Hanlester would establish physician-owned limited partnership laboratories in California, Nevada, and Arizona;
- The agreement between Hanlester and SmithKline also provided that SmithKline would be given a right of first refusal to manage the laboratories for a fee based on the labs' revenues;
- Physician-investors were selected on the basis of the number of laboratory tests they were expected to generate for the lab; and
- A significant part of the business of each lab was derived from physician referrals.

Unlike the courts in *Greber* and *Kats*, the *Hanlester* court concluded that the statute prohibits agreements to refer Medicare- and Medicaid-related business, but does not prohibit offers or payments that are intended to encourage referrals but that are not *conditioned* on referrals of program-related business. Applying this analysis, the court determined that because no physician-investors, even those who failed to refer any patients, were ousted from the partnership, the OIG failed to prove the necessary connection between the referrals and participation in the joint venture. The court implied that had arrangements made it mandatory that the physician-investors refer patients, or had the physicians been compensated in direct proportion to the volume of referrals, the statute would have been violated. The arrangement in *Hanlester*, however, only encouraged referrals, which the court deemed a natural consequence of physician investment in a service-providing entity.

The *Hanlester* case is significant in several respects. First, the proceeding is the first major test of the OIG's power to enforce the Fraud and Abuse Statute by imposing civil penalties and excluding violators from future participation in Medicare and Medicaid. Second, it contains a comprehensive analysis of the statute's legislative history and discussion of the cases decided under it, providing sorely needed guidance for dealing with fraud and abuse issues. Finally, the case represents a significant impediment to the OIG's fraud investigations, which have themselves seriously dampened the climate for joint ventures in the past several years.

Although the *Hanlester* case provides comfort for physician investors, physicians should continue to proceed with caution when entering into joint venture arrangements because the OIG will likely appeal the administrative law judge's decision. In addition, the *Hanlester* case may spur a Congressional thrust to pass new legislation that would more directly and completely ban Medicare payments for referrals. MM

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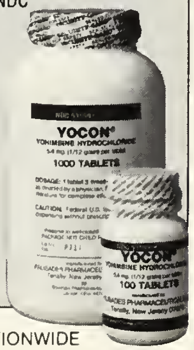

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Can you imagine working as hard as you have for your entire career, setting aside that retirement nest egg only to have it taxed at an 83 percent combined tax rate? As hard to imagine as it seems, it can happen. This is not some hairbrained idea floating around Congress; it's the result of current laws that may apply to you and many other medical professionals. When establishing a retirement savings plan, you should ask yourself two important questions: "Will my hard-earned retirement assets be subject to the triple-tax wringer?" And if so, "What can I do about it?"

While you probably know that someday your qualified retirement plan assets will be subject to income taxes, you may not realize that those same assets often are subject to estate taxes as well as an excise penalty tax. If you hold retirement assets at your death, these taxes could exceed 83 percent. That's less than 17 cents on every dollar to pass along to your children and grandchildren after your death. This article examines a financial strategy that, where appropriate, would allow you to pass your entire qualified retirement plan assets to your heirs, dollar for dollar and then some.

Historical Perspective

In the mid '70s, Congress passed laws to encourage individuals to save money in qualified retirement plans by offering substantial tax advantages. Contributions were tax deductible, growth on the assets was tax-deferred, and the accumulated assets were favorably taxed after the plan participant's death. Financial advisers encouraged clients to put away as much money as possible and recommended that they use qualified plan assets to pass along as inheritance to children and grandchildren.

As these retirement plans began to build in overall market value—in part because of the stock market valuation boom of the 1980s—Congress felt the rich were overly benefiting from the law. So, perhaps not surprisingly, Congress changed the rules.

> "Your retirement plan assets may be unnecessarily subject to three separate taxes."

Given today's tax regulations, qualified retirement plan assets are literally confiscated upon death if you have accumulated too much in these plans. Estate taxes are as high as 55 percent, state and federal income taxes as high as 40 percent, and excise taxes 15 percent. These separate taxes appear to add up to more than 100 percent, but because the estate tax is deductible (attributable to the qualified plan assets on the income tax return of the plan beneficiary), the combined effective rate levels out at about 83 percent. Consequently, if you die with a considerable estate, with large accumulations in qualified plan assets, your heirs may realize as little as 17 cents on every dollar. Qualified retirement plan assets are, without much doubt, the most inefficient estate assets a person can own.

Although this triple-tax wringer may seem grossly unfair, the truth is that unless you act quickly and plan wisely, your retirement plan assets may be unnecessarily subject to these three separate taxes. There is even a possibility that a fourth tax—the generation-skipping tax—could be imposed if your grandchildren are named as beneficiaries. Taxes could then total 94 percent!

A Possible Solution

Let's look at how this triple-tax problem was successfully solved in one case.

Dr. Dow Jones is 60 years old and, with his 55-year-old wife, is evaluating their retirement income alternatives. They have three children and their dual objective is to maximize the amount of money they pass along to their children without jeopardizing their own standard of living during their retirement. The Joneses have accumulated, including insurance death benefits, a total estate of $3 million. This includes $1.2 million in Dr. Jones's qualified retirement plan.

At retirement, the Joneses have three tax options with respect to their qualified plan assets. They can:

1. Rollover the assets to an individual retirement plan (IRA) and let the assets continue to compound, tax deferred, until age 70½, at which time minimum distributions must commence under the tax rules;
2. Receive a lump-sum distribution and pay income taxes under the five-year income averaging rules or the grandfathered 10-year income-averaging rules, and invest the residual and use it as needed; or
3. Take monthly income today in an amount fulfilling current income needs and pay ordinary income tax rates on the amounts received.

A detailed review of the Joneses' cash-flow needs determined that they need $120,000 of pre-tax income, or approximately $80,000 of annual

Table

Outcome comparison of qualified plan alternatives

Year of surviving spouse's death	Gross retirement plan assets with no distributions	Inheritance to children Net of income, estate, and excise taxes		
		IRA rollover	Wealth Alternative 1	Wealth Alternative 2
1	$1,320,000	$385,229	$406,609	$2,903,609
5	1,932,612	506,450	582,334	2,914,990
10	3,112,491	716,185	900,414	2,959,934
20	8,013,000	1,469,638	2,439,967	3,737,028

after-tax income, in order to maintain their standard of living. Because their assets outside their qualified retirement plan could provide all but $30,000 of this after-tax income, conventional wisdom suggests that they rollover the retirement plan assets to an IRA and take annual distributions from the IRA in an amount necessary to produce the $30,000 after-tax income ($47,620 pre-tax), leaving the remaining IRA assets to compound, tax deferred, until Dr. Jones reaches age 70½. Although this makes financial sense with respect to income tax and cash flow planning, it may not be the most effective alternative to fulfill their objective.

The net after-tax inheritance the Joneses' children will receive at the death of their parents under the method outlined above is compared with two suggested alternatives in the table.

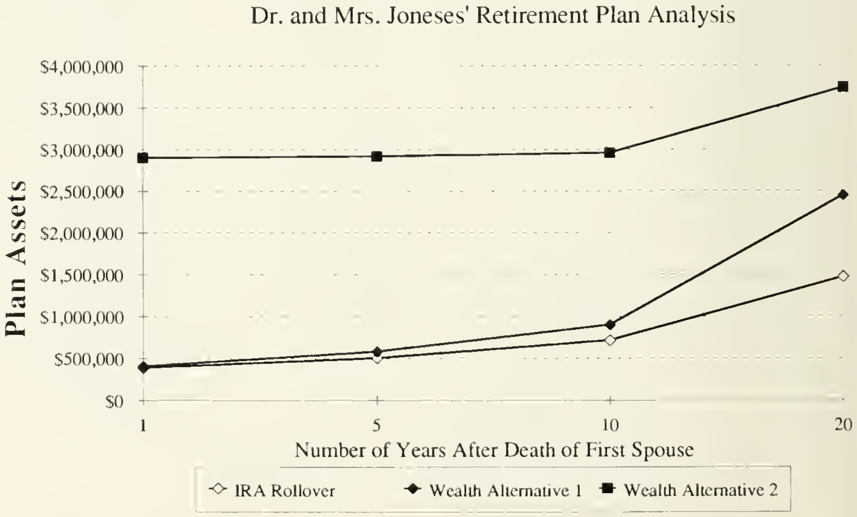
Clearly, the IRA rollover plan (taking only needed or minimum distributions) produces the greatest shrinkage (72 percent) and the least amount of inheritance to the Joneses' children.

Wealth Alternative 1 assumes that the Joneses elect to begin taking $100,000 per year, pay their taxes, use $30,000 for living expenses, and gift the remaining $33,000 per year to a Wealth Replacement Trust for 10 years. The Wealth Replacement Trust invests the annual gifts at a 6.5 percent after-tax rate of return.

Wealth Alternative 2, which Dr. and Mrs. Jones elected to accomplish their dual objective, involved the following steps:

- Rollover the plan assets to an IRA and begin taking a $100,000 per year distribution. Assuming they can earn at least 8.3 percent on the IRA, the annual distribution is equal to the annual interest earnings.
- Make annual gifts of $33,000 for the next 10 years to an Irrevocable Wealth Replacement Trust for the benefit of their children, leaving the Joneses with an additional $30,000 per year of net after-tax income, or a total net after-tax income of $80,000 from all sources.
- Request that the trustee(s) of the Irrevocable Wealth Replacement Trust apply for a $2.5 million second-to-die life insurance contract. (The life insurance policy premiums would be discontinued after 10 annual premium payments. If the Joneses decide to continue making the $33,000 gifts to the Wealth Replacement Trust, and the trustee continues to make the insurance premium payments, the death benefit would begin to escalate and could reach $4 million in year 25.) The trust will be the owner and beneficiary of the death benefit proceeds, which are payable at the death of the surviving spouse, allowing the death benefit to avoid all three taxes.

None of the above steps jeopardizes the Joneses' projected cash-flow needs. After 10 years, they can decide



Figure—Comparison of results of an IRA rollover with minimum distributions beginning at age 70½ under two alternatives.

annually whether or not to continue the gifting program.

The graph compares the result of this plan to an IRA rollover with minimum distributions beginning at age 70½.

Summary

In summary, let's review the result of the Joneses' coordinated retirement income and estate planning strategy:

1. The Joneses maximized their estate assets, converting an inefficient estate asset to an efficient estate asset, without jeopardizing their current or future standard of living.
2. They committed to a gifting program for only 10 years, after which they have the flexibility to continue gifting the trust or to retain all the current IRA income.
3. They are free to "consume" their other taxable assets during their lifetimes without worrying about saving something for their three children. The Wealth Replacement Trust will leave approximately $1 million for each child.

This strategy is obviously not available to everyone, nor is it applicable to everyone. While this solution worked extremely well for these clients, everyone's situation is different. Every situation needs a professional and personalized plan based upon individual objectives. Only after objectives have been clearly identified and alternatives thoroughly explored can a suitable solution be identified. It is important that a thorough review of the entire financial picture be performed by a competent financial planning team before you attempt to correct a potential problem. Make certain your advisers are familiar with solving this type of problem so as not to create additional problems. MM

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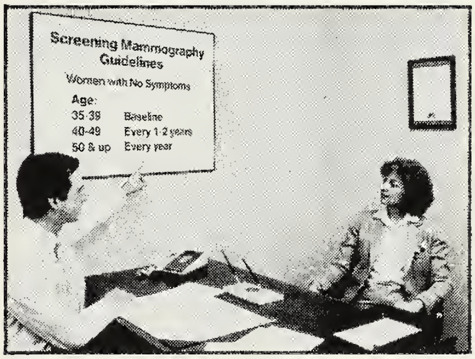

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To get a copy of the *Health Access America* proposal, please call our Member Service Center at 1-800-AMA-3211.

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A message from The American Medical Association for the Health Access America Pr

MMA Grapples with AIDS-testing Policy

Richard B. Tompkins, M.D.

"We must attempt to bring reason to a sometimes dark and frightening picture."

After a prominent Baltimore surgeon died of AIDS and a Florida dentist infected at least three patients, a *Star Tribune* headline proclaimed, "Patients Shouldn't Have to Fear Catching AIDS from Doctors." A later article, "Doctors Fearing Risk of Exposure to AIDS Virus," in the *St. Paul Pioneer Press* reported that 38 percent of residents are "very concerned" about contracting AIDS from their patients.

With fear mounting among both physicians and the public, the American Medical Association issued a statement in January calling for HIV-infected physicians to reveal their HIV status or stop performing invasive procedures. The American College of Surgeons and the American College of Emergency Physicians oppose the AMA policy. But despite the disagreement, organized medicine is united in its opposition to mandatory physician testing.

AIDS testing is an emotionally charged issue. I'm not surprised that a terrible, incurable illness has caused panic, but as physicians, we must approach AIDS rationally and scientifically, attempting to bring reason to a sometimes dark and frightening picture. Before we set an AIDS-testing policy, we must determine the facts. How great is the risk of HIV infection in the health care setting for physicians? For patients? How much would testing reduce that risk? What level of risk is acceptable?

After receiving recommendations from the MMA Committee on Ethics and Medical/Legal Affairs, the Board of Trustees in March began to develop an AIDS-testing policy appropriate for Minnesota. We decided to approach AIDS as we would any other infectious disease and to use as a guide hepatitis B, a much more contagious disease that is spread in the same manner as HIV. Only two hepatitis B-infected health care workers in Minnesota have transmitted the disease to patients in the last 15 years, even though a needle stick from a hepatitis B-infected person results in infection 30 percent of the time, compared with about 0.3 percent for HIV.

The risk of contracting AIDS in the health care setting is minimal for both physicians and patients. In last month's issue of *Minnesota Medicine*, State Epidemiologist Michael Osterholm discussed how minimal the risk actually is—especially in Minnesota. The lifetime chance of a health care worker in a Minnesota hospital developing infection is about five in 100 million procedures, according to Osterholm. There's not a single documented case of a surgeon infecting a patient in the United States, and there's not a single case of a Minnesota physician contracting HIV through occupational exposure.

After much discussion, the MMA board voted to oppose mandatory screening of health care workers until the Centers for Disease Control and other national groups develop standards. Mandatory testing seems unnecessary, expensive, and of little benefit. The most persuasive argument against testing is that it doesn't seem to improve safety. In the June 21 issue of the *New England Journal of Medicine*, Gerberding et al. found no evidence that preoperative HIV testing reduces accidental exposure to blood during surgery.

The MMA board took the position that, "The MMA shall encourage all health care workers who have high-risk personal behaviors to be tested for HIV with needed counseling services provided." Choosing to wait for the CDC guidelines, the board did not approve a recommendation to require HIV-infected physicians to report their serostatus to the Board of Medical Examiners. (The BME has since published an article in its newsletter stating that all physicians—except in the case of a physician/patient relationship—who have personal knowledge of HIV or hepatitis B in a practicing physician must report that information to the BME. Although the BME does not publish disciplinary actions related to impairment, the orders are public documents.)

The trustees also voted to support initiatives to educate health care workers about universal precautions and to consider developing educational programs. A study of physicians reported in the March 6 issue of the *JAMA* found that universal precautions were effective in reducing the risk of occupational exposures to blood and body fluids.

The MMA will continue to consider new evidence as it becomes available. Our policy should respond to real risk, not to misconceptions about HIV transmission. MM

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People and Places Making Medical News

People

Health Commissioner Resigns

John McCally resigned as Commissioner of Health March 25 amid controversy over reports that he attempted to use his position to get a free membership at the St. Paul Athletic Club. McCally admitted to calling the club about a free membership and apologized for the mistake, but he refuted club Membership Director Peter Gavin's accusation that he had threatened the club with his enforcement authority over the club's pool, food service, and smoking areas.

Gov. Arne Carlson had appointed McCally to the post in early February.

Minneapolis Health Commissioner

Minneapolis Health Commissioner David Lurie was named director of the Seattle-King County Department of Public Health in Washington and is expected to start the job this summer. Lurie has been chief of the Minneapolis Health Department since 1981.

Fairview Chief of Staff

The medical staff at Fairview Southdale Hospital elected James R. Bishop, M.D., chief of staff for a one-year term that began April 1. Bishop is medical director of the hospital's emergency department.

Other executive committee members elected are Donald C. Bell, M.D., chief-elect; Richard Burman, M.D., secretary-treasurer; and William L. Carter, M.D., past chief.

Department chairs for the year are Linda Johnson, M.D., family practice; Daniel Zydowicz, M.D., internal medicine; Douglas Soderberg, M.D., obstetrics/gynecology; James Johanson, M.D., orthopedics; Duane Rommel, M.D., pediatrics; and H. L. Saylor III, M.D., surgery.

HCMC Division Chief

Hennepin County Medical Center named Carl S. Smith, M.D., chief of the Division of Urological Surgery in the Department of Surgery. He replaces Alexander Cass, M.D., who retired from the position after 16 years. Smith has been a staff member at HCMC since 1983. He is also an associate member of the graduate faculty of the Biomedical Engineering Program at the University of Minnesota and serves as a clinical instructor in General Surgery.

MedCenters Positions

MedCenters newly elected board of directors for the 1991 fiscal year include Chairman William Schoenwetter, M.D., Park Nicollet Medical Center; Vice Chairman Warren Becker, retired Unisys employee; Secretary Joseph Mitlyng, executive vice president and chief operating officer, Park Nicollet Medical Center; and Treasurer Joseph Dillenburg, an independent medical consultant.

Three provider directors also were elected to represent plan providers. Filling the new positions for terms of one, two, and three years, respectively, are: Kennith Sansome, M.D., Family Physicians of Northfield; John Frederick, M.D., North Suburban Family Physicians; and Mark Brakke, M.D., Comprehensive Medical Care, Coon Rapids.

MedCenters hired James Hartert as its full-time associate medical director. In the new position, Hartert will oversee medical policies, manage the HMO's quality assurance programs, and provide underwriting support.

HealthEast Director

Robert M. Carlson has joined HealthEast as director of physician services. He will assist Robert Beck, M.D., vice president of medical affairs, in providing support services for the medical clinics associated with HealthEast. Most recently, Carlson was vice president of the Medical Division of Ellerbe Becket, Inc., a Minneapolis architectural, engineering, and design firm. Prior to Ellerbe Becket, he was in hospital administration at the Medical College of Ohio and Riverside Hospital in Toledo.

NIH Director

Cleveland cardiologist Bernadine Healy, M.D., is the new director of the National Institutes of Health, which was without a permanent director for nearly two years. The Senate Labor and Human Resources Committee approved Healy's nomination, and the full Senate confirmed it in late March. Healy will be the first woman to head the NIH, which awards more than 23,000 medical research grants each year. Most recently, she was research director of the Cleveland Clinic Foundation.

Local M.D. Wins Volvo Award

John E. Sherman, M.D., an orthopedic surgeon at Orthopedic Surgeons Ltd. in Edina, will be honored in May with the Volvo Award for his research on spinal nerve compression. The award, sponsored by the International Society for the Study of the Lumbar Spine, will be presented in Heidelberg, Germany.

Park Nicollet Scholarship

Native Minnesotan Edward Kelly has been selected to receive Park Nicollet Medical Center's Minnesota Medical Student Scholarship. This is the fourth $1,000 scholarship Park Nicollet has awarded to promote educational opportunities in health care. Kelly, a third-year medical student at the Mayo Medical School in Rochester, Minnesota, will use his scholarship to further his research in the Mayo Clinic's Gastroenterology Laboratories. He will be performing a series of experiments using photodynamic therapy as a means for killing malignant cells and leaving normal cells intact.

Places

HCMC/M-MSMC?

Negotiations may lead to the Hennepin County Medical Center taking over most of Metropolitan-Mount Sinai Medical Center, according to an April 6 Twin Cities *Star Tribune* report. Dan McLaughlin, HCMC administrator, said the county hospital might buy or lease M-MSMC, a Health One hospital, as early as this summer if the Health One and Hennepin County boards agree.

Metropolitan-Mount Sinai has reduced its size in recent years, going from a staff based on 800 beds to about 300 beds. Under the plan, Hennepin County would get Metropolitan-Mount Sinai's operating rooms and the space currently used for medical and surgical patients and support services. This would help solve HCMC's overcrowding problem in its emergency room, said McLaughlin.

The 1,300 people employed by M-MSMC will likely be offered jobs at HCMC or at other Health One hospitals, the newspaper reported.

Day Care for Crack Babies

Model Cities Health Center plans to open a day care center in St. Paul this fall for infants, toddlers, and preschoolers whose mothers took drugs while pregnant. It will be the first center of its kind in Minnesota.

Cocaine babies need special care because they react differently to stimuli than other babies; for example, the rocking motion that soothes most babies can make cocaine babies cry louder. The care providers at Model Cities new center, called Model Cities Family Development Center, will be specially trained to care for these children. The center will also be designed with subdued colors and lighting because children exposed to cocaine before birth are typically overly sensitive to bright lights and colors.

The $748,000 center, funded with government and foundation money, will also include other community services and programs, including Model Cities' traditional child care center, which will be moved to the new building after it's completed.

New Space for St. Paul Hospitals

United Hospital and Children's Hospital of St. Paul in April completed a new 80,000 square-foot Day Surgery Center, which expands the outpatient surgery capabilities of both facilities. Located on the second floor of the $24.5 million addition to the hospitals' medical campus across the street from United, the center provides facilities and services for pediatric patients as well as adults. The waiting area for children, designed to ease their fears while waiting for surgery, will be decorated with beach umbrellas, sailboat tables, and tropical fish. A puppet called Emily will answer the children's questions and prepare them for surgery. Children and adults will have separate admitting and recovery areas.

Also opened in April was the Ritchie Medical Plaza, a 28,000 square-foot physician office facility located on the third and fourth floors of the addition. Its name recognizes three generations of Ritchie family physicians and their contributions. Elijah Parks Ritchie, who came to St. Paul in 1881, became dean of the University of Minnesota Medical Department in 1897 and was a member of the medical staff at St. Luke's Hospital, a predecessor of United Hospital. His son and grandson, both physicians, also had distinguished teaching careers at the University of Minnesota, and all three served as presidents of the Ramsey County Medical Society.

Also housed in the addition is United Hospital's newly opened Radiation Therapy Center for on-site therapy. The new 10,300 square-foot facility houses a dual energy linear accelerator capable of treating virtually all kinds of cancerous tumors. The center also includes a computer-controlled radiation therapy simulator that enables physicians to model radiation therapy using high-resolution X-rays. Use of the simulator pinpoints the treatment area more accurately and allows patients to be treated with lower dosages of radiation than would be possible without simulation.

New Biomaterials Center

The University of Minnesota announced in April that it is forming the Minnesota Dental Research Center for Biomaterials and Biomechanics (Biomaterials Center) at the School of Dentistry's Department of Oral Science. As the founding industrial partner, 3M has committed $1 million over five years to fund the center, which will focus on the development of new dentistry technologies.

The center is based on the belief that better materials and methods can be delivered faster to the public if people with development and materials skills work directly with those who have lab and clinical skills.

William H. Douglas, D.D.S., professor of oral sciences at the university, and Richard P. Fields, a scientist in 3M's Dental Products Division, will be co-directors of the center.

Socioeconomics

HMOs See Record Profits

Minnesota's health maintenance organizations saw record profits totaling more than $57 million in 1990, up from $27.5 million in 1989. The state has required HMOs to build up reserves equal to a month's operating costs by 1993, and some have already met the requirement.

The Twin Cities' five major HMOs accounted for $56 million of the $57 million in profits. Group Health had a $7.9 million profit on $383 million in revenue; Med-Centers Health Plan had a $21.9 million profit on $313 million in revenue; Physicians Health Plan had a $16.2 million profit on $374 million in revenue; Share Health Plan had a $6.7 million profit on $259 million in revenue; and Blue Plus had a $3.7 million profit on $114.5 million in revenue.

HMO officials said premiums are rising 10 percent to 15 percent this year, according to a March 30 Twin Cities *Star Tribune* report.

Trade Center Medical Expo

The Minnesota World Trade Center announced plans to hold an international exposition of medical products and services in May 1993 at the Minneapolis Convention Center. The expo would rival the Medica expo held each November in Germany, said Lee Berlin, chairman of LecTec Corp. and head of the Trade Center's Business Development Committee. Many medical exhibitors from around the world would rather exhibit in the United States, the world's largest medical market, he said.

Door-to-Door Prenatal Care

St. Paul officials might initiate door-to-door programs in low-income St. Paul neighborhoods to educate pregnant woman about prenatal care. The city's infant mortality rate has been high, reaching 17 per 1,000 black babies between 1985 and 1988, close to the average national rate for black babies and above the average for all babies. Infant mortality is also high in St. Paul's low-income neighborhoods—13 per 1,000 births for Frogtown and 14 for the Lower East Side, say city officials. The door-to-door campaign is one of a number of plans proposed for addressing the problem.

Medicaid to Pay for Norplant

Medicaid has agreed to pay for Norplant in Minnesota and several other states. The five-year contraceptive implanted in a woman's arm releases a continuous dose of progestin, which prevents pregnancy.

Wyeth-Ayerst, the Philadelphia-based pharmaceutical company that manufactures the contraceptive, has applied for Medicaid coverage under all state programs. Federal law requires Medicaid to cover family-planning services, but Norplant is not automatically included because it is a prescription drug and physicians must implant it.

Medicaid Pays Less than Medicare

Medicaid pays doctors 69 percent of what Medicare pays and an even lower percentage of what private insurers pay, according to a report by the Physician Payment Review Commission (PPRC). In its report to Congress, the federal advisory panel said many doctors are refusing Medicaid patients, and low fees are an important reason.

There are several reasons why reimbursement for Medicaid is lower than for Medicare. Medicare, for the elderly and disabled, has a stronger political constituency than Medicaid, a health program for the poor. Medicare also has its own trust funds from payroll taxes, premiums, and general revenues, while Medicaid relies on federal and state revenues. States use their discretion in paying doctors' fees for Medicaid, and in some states Medicaid pays less than it costs physicians to perform certain procedures.

The PPRC plans to recommend changes to the Medicaid program later this year.

Medigap Insurance

As part of a new law aimed at protecting consumers and reducing confusion, the nation's health insurance commissioners have selected nine private health insurance policies to supplement Medicare. The new "Medigap" policies, designed to cover expenses not covered under Medicare, will soon replace the thousands of current Medigap policies, which often have only minor distinctions. Elderly people, confused by the array of choices, often purchase policies with unnecessary, duplicative benefits. Under the new federal law, an insurance agent who sells an unapproved policy is subject to a fine of up to $25,000.

The Rural Uninsured

Rural residents are less likely than urban residents to have health insurance. As many as 32 percent of rural Americans went without insurance for at least one month during a 28-month period, compared with 26.7 percent of urban Americans, according to a Center of Budget and Policy Priorities survey.

In the survey, about 12.6 percent of rural residents rated their health as fair or poor, compared with only 9.3 percent of urban residents. Poor rural families (with income under $20,000) rated their health the lowest. Rural residents with poor health made fewer doctor visits than similar urban residents, which is due in part to the physician shortage in rural areas, the authors conclude.

Infant Mortality Drops

The nation's infant mortality rate dropped 6 percent last year, from 9.7 deaths per 1,000 births in 1989 to 9.1 in 1990, the largest drop in almost a decade, according to government statistics. The average yearly drop during the 1980s was only 2.5 percent.

One reason for the decline is the introduction of a drug for preventing sudden respiratory failure in premature babies, say government statisticians. Increased Medicaid spending for prenatal care, which began in 1986, is probably another reason.

Innovations

Radio Waves Correct Heartbeat

Mayo Clinic recently began using a new non-surgical procedure called radio frequency ablation to treat some patients with rapid heartbeats. After performing more than 20 procedures since November 1990, Mayo cardiologists are hopeful that this new technique could offer a safe and effective alternative to costly open-heart surgery.

"This technique allows us to precisely locate and safely eliminate the heart tissue responsible for the abnormal electrical activity associated with the rapid heartbeat," explained Douglas Packer, M.D., a Mayo Clinic cardiologist.

Surgical removal of the tissue causing this type of rhythm problem is more costly and requires a hospital stay of seven to 10 days and a two- to six-week recovery period. In contrast, patients undergoing radio frequency ablation require only two to three days of hospitalization and can resume normal physical activity within a few days.

During the procedure, a cardiologist inserts a catheter through a vein or artery in the patient's leg or arm. After positioning the catheter inside the heart, a quick burst of radio frequency energy heats the catheter tip and destroys heart tissue responsible for the rhythm problem. Radio frequency ablation is believed to be superior to previously tested "direct current" ablation techniques, Packer said.

Stent Reopens Arteries

Mayo cardiologists have also been testing intracoronary stents designed to restore circulation in patients who experience life-threatening coronary artery closure during balloon angioplasty (PTCA).

Used to improve circulation in blocked coronary arteries, PTCA is widely recognized as a safe procedure. However, 3 percent to 7 percent of patients undergoing PTCA can experience abrupt collapse of the coronary arteries during or following the procedure. Before the development of intracoronary stents, emergency coronary bypass surgery was the only treatment available to help restore circulation and prevent damage to the heart.

"Our preliminary experience with stents indicates that they may offer us an alternative to emergency bypass surgery in treating acute and threatened coronary closure," said Kirk N. Garratt, Mayo cardiologist.

Wrapped around a standard balloon-tipped catheter, the stent consists of a tightly coiled, flexible wire mesh tube that expands and separates the walls of the collapsed artery to allow circulation to resume. The procedure can be performed without transferring the patient to an operating room.

Mayo is one of 14 centers in the United States and Canada involved in a study examining the safety and effectiveness of stent placement.

Medical Research

Triple Treatment for Rectal Cancer

Combining chemotherapy with surgery and radiation treatment can cut the death rate from advanced rectal cancer by about one-third, according to a study directed by James Krook, M.D., of the Duluth Clinic and published in the March 14 *New England Journal of Medicine*. The study, which followed 204 patients for an average of seven years, showed that 62 percent of patients who had only radiation treatment after surgery died within the seven years, while 47 percent of those who had radiation and chemotherapy died during the study period. The researchers used the drugs fluorouracil and semustine.

Charles Moertel, M.D., of Mayo Clinic, a co-author of the study, predicts that use of the triple treatment will spread rapidly. The National Cancer Institute has already sent an announcement of the therapy to 150,000 physicians.

Several other Duluth doctors joined Krook in leading the study as part of the North Central Cancer Treatment Group, which is headquartered at the Mayo Clinic and involves doctors in a number of other states.

HIV in Mothers and Infants

Women of childbearing age in Minnesota have one of the lowest rates of HIV infection of 38 states surveyed. Only Montana, New Hampshire, and New Mexico had lower rates, according to the survey, which was published in the April 3 *Journal of the American Medical Association.*

The researchers tested anonymous blood samples to find out how many women who gave birth between mid-1988 and mid-1990 were infected. The study found that two childbearing women had the AIDS virus per 10,000 births. Researchers estimate that about 13 HIV-infected women give birth in Minnesota each year, and, because about one-third of all infected women pass the virus to their fetuses, about four infected infants are born each year in Minnesota.

New York had the highest rate, with 58 childbearing women having the virus per 10,000 births.

Twin Citians' Cholesterol Levels

Cholesterol levels of Twin Cities residents have lowered significantly since the early 1980s, according to a University of Minnesota study of more than 4,600 adults.

School of Public Health researchers found that between the early and late 1980s, men's cholesterol levels dropped from 205 milligrams per deciliter of blood to 200, and women's from 201 to 195. The lower levels will lead directly to lower heart disease death rates, say researchers.

The study, published in the April 4 *New England Journal of Medicine*, concluded that most of the change can be attributed to better diets, more exercise, and weight loss, rather than cholesterol-lowering medicines.

Body's First Attack Slows AIDS

In the first few weeks after an AIDS infection, the body launches a massive counterattack, driving the virus to minimal levels, according to two independent reports published in the April 4 *New England Journal of Medicine*. Researchers were surprised by the intensity of the counterattack, particularly since it eventually fails.

Women Fail to See AIDS Risk

Most women who go to public clinics for treatment of IV drug use or sexually transmitted diseases do not acknowledge that they are at risk of contracting AIDS, according to a Centers for Disease Control study. In the study, about 80 percent of surveyed women said they weren't at risk.

Public Health adviser Carl Cambell said there is a need for programs to educate minority women on AIDS prevention. While only 17 percent of all U.S. women are black or Hispanic, 73 percent of the 15,493 women with AIDS reported through 1990 are black or Hispanic.

Refusing Terminal Care

Most people would refuse life-sustaining treatment if terminally ill, according to a survey conducted at Massachusetts General and Beth Israel hospitals in Boston. The authors say doctors should openly discuss terminal care with patients.

The survey asked people to imagine themselves in different medical situations and answer questions about medical treatment. Researchers found that 57 percent would refuse treatment if in a coma with a chance of recovery, 85 percent if in a persistent vegetative state, 79 percent if demented, and 87 percent if demented with a terminal illness. When asked about advance directives (written statements describing a patient's preferences should he or she become unable to make medical decisions), 90 percent said they were in favor of advance directives, but only 15 percent had prepared one. **MM**

It now lasts up to five years longer.

Americans live longer nowadays. Up to five years longer, says one study, than in 1970. One reason is that people know more about reducing their risk of heart disease. And we've helped. This year the AHA will invest more than $70 million in cardiovascular research and organize 2.7 million volunteers to go out and spread the word. To learn more, call or write your nearest American Heart Association.

American Heart Association

This space provided as a public service.

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3 MAN $50
4 MAN $67

Before Midnight May 31

As part of an advertising test *Dunlap Boat Mfg.* will send any of the above size boats to any reader of this publication who reads and responds to this test before midnight, May 31. This test has been commissioned by the *International Boat Exchange*. Each Boat Lot No. (Z-26 PVC), is constructed of tough high density vinyl fabric (resistant to abrasions, sub-freezing temperatures, sunlight, salt & oil), and has electronically welded embossed seams, nylon safety line grommeted all around, heavy duty oar locks, equipped with attachments for an optional motor mount to handle up to a 2½ h.p. motor, 4 separate air chambers for extra safety in 4-man, self-locking safety valves (includes a combined hand/foot inflator/deflator bellows style pump). Recommended for marine, ocean and fresh water recreation, camping, fishing or a family fun boat. Each boat will be accompanied with a **LIFETIME** guarantee that it must perform 100% or it will be replaced free. Add $7 handling & crating for each boat ordered, *Dunlap Boat Mfg.* pays all shipping (Continental USA — Alaska residents add $15). There is no other monetary requirement. If your order is received within the next ten days you will receive **FREE a rugged water sport (waterproof) digital wristwatch** specifically designed for water, diving, etc. (features second, minute, hour, date and month). Lights up at night, and is accurate to the 10th of a second each year. Should you wish to return your boat you may do so for a refund or exchange. Any letter postmarked after May 31 will be returned. LIMIT: one (1) boat per address, no exceptions. Send appropriate sum together with your name and address to: Test Dept. # A625 *Dunlap Boat Mfg.*, 517 W. Garfield Ave., Glendale, CA 91204. Or for fastest service from any part of the country call FREE before midnight seven days a week.

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HENNEPIN COUNTY MEDICAL CENTER/HENNEPIN FACULTY ASSOCIATES

CALENDAR OF MEDICAL EVENTS

May 1, 1991

AFRO-AMERICANS IN THE HEALTH CARE SETTING

Addressing the health care needs, concerns and barriers of African Americans locally and nationally

Chairman
Harley Racer, M.D.
Hennepin County Medical Center
Minneapolis

May 3, 1991

ANNUAL PRACTICAL GI CONFERENCE FOR PRIMARY CARE

Co-sponsored with St. Paul Ramsey Medical Center

Updated therapy for gallstones, hepatitis, refractory diarrhea and peptic disease

Co-Chairmen
Martin Freeman, M.D., Robert Olson, M.D.
Hennepin County Medical Center
Minneapolis

May 16-18, 1991

ACUPUNCTURE FOR PAIN CONTROL

A practical application course with "hands-on" practice sessions

Chairman
Miles Belgrade, M.D.
Hennepin County Medical Center
Minneapolis

May 24, 1991

MANAGEMENT OF PRESSURE SORES FOR PRIMARY CARE

Optimize prevention and healing of ulcers and sores

Chairman
George Peltier, M.D.
Hennepin County Medical Center
Minneapolis

June 14, 1991

CRISIS INTERVENTION- "What difference Does it Make?"

Examine the value of crisis intervention for the health care system and the public

Chairman
Zigfrids Stelmachers, Ph.D.
Hennepin County Medical Center
Minneapolis

June 20-22, 1991

IMPLANTING PACEMAKERS

How and when to implant pacemakers

Chairman
David Dunbar, M.D.
Hennepin County Medical Center
Minneapolis

For further information, contact the Office of Academic Affairs
701 Park Avenue, Suite 4512, (Mail Code #865), Minneapolis, MN 55415; 612/347-2075
fax 612/347-6155

Hennepin County Medical Center
HENNEPIN HCMC

OFFICE OF
ACADEMIC
AFFAIRS

A Calendar of Continuing Medical Education Courses

Provided through the MMA Medical Education Subcommittee on CME Resources. For assistance with scheduling meetings or for information on future medical meetings and CME courses at the state and national level, please contact the MMA office: 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414; 612/378-1875. Information for each entry is arranged by date; name of program; primary sponsor; location; contact person.

MAY 1991

May 1 **Afro-Americans in the Health Care Setting** HCMC and Hennepin Faculty Associates; Hennepin County Medical Center, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

May 1-3 **Minnesota Academy of Family Physicians Annual Spring Refresher** Minnesota Academy of Family Physicians; Hyatt Regency Hotel, Minneapolis, MN. CONTACT: MAFP, University Office Plaza, 2221 University Avenue SE, Suite 426, Minneapolis, MN 55414; 612/331-2506 or 800/999-8198.

May 3 **Annual Practical GI Conference for Primary Care** HCMC and Hennepin Faculty Associates; Hennepin County Medical Center, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

May 3 **Fourth Annual U of M Conference on the Prevention of Atherosclerotic Diseases** Office of CME, University of Minnesota Medical School; Holiday Inn Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

May 6-10 **Team Management of Diabetes Mellitus** International Diabetes Center; International Diabetes Center, Minneapolis, MN. CONTACT: Cindy Poppitz, International Diabetes Center, 5000 West 39th Street, Minneapolis, MN 55416; 612/927-3393.

May 9 **Research at HCMC Fifth Annual Poster Session** HCMC and Hennepin Faculty Associates; Hennepin County Medical Center, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

May 10 **Technological & Ethical Issues in Hand Surgery** Hand Surgeons of Minnesota and Health East; Sheraton Midway Hotel, St. Paul, MN. CONTACT: Lisa Harrell, Health East Midway Hospital, 1700 University Avenue, St. Paul, MN 55104; 612/641-5112.

May 10-11 **Ophthalmic Reviews** Mayo Clinic and Mayo Foundation; Leighton Auditorium, Rochester, MN. CONTACT: Rita Kunz or Jan Fleck, Mayo Clinic, 200 1st Street SW, Rochester, MN 55905; 507/284-2509 or 800/323-2688.

May 12 **Continent Urinary Diversion: An Instruction Workshop** Office of CME, University of Minnesota Medical School; Malcolm Moos Tower, University of Minnesota, Minneapolis, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

May 13 **Emergency Medicine: The Critical First Hour** Health One; Earle Brown Heritage Center, Brooklyn Park, MN. CONTACT: Donna Hill, 2810 57th Avenue North, Minneapolis, MN 55430; 612/574-7857.

May 14 **Women's Cancer Center Symposium** Office of CME, University of Minnesota; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, MN 55455; 612/626-7600.

May 15-17 **Concepts in Radiation Therapy** Office of CME, University of Minnesota; Mayo Memorial Auditorium, Minneapolis, MN. CONTACT: Registrar, Office of CME, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, MN 55455; 612/626-7600.

May 15-17 **Health Risk Assessment and Risk Management** Midwest Center for Occupational Health & Safety; Hilton Hotel Metrodome, Minneapolis, MN. CONTACT: Angela Holenaar, Midwest Center for Occupational Health & Safety, 640 Jackson Street, St. Paul, MN 55101; 612/221-3992.

May 16 **Advanced Laparoscopic Seminar: Inguinal Herniorrhaphy, Appendectomy** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

May 16 **Hospice** Group Health Continuing Research Education Fund; Minneapolis Metrodome Hilton, Minneapolis, MN. CONTACT: Debbie Bladine, Physician Services, Group Health, 2829 University Avenue, Minneapolis, MN 55414-3292; 612/623-8479.

May 16-18 **Acupuncture for Pain Control** HCMC and Hennepin Faculty Associates; Hennepin County Medical Center, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

May 17 **Advanced Laparoscopic Seminar: Inguinal Herniorrhaphy, Appendectomy** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

Health One Medical Education

May 13
EMERGENCY MEDICINE: THE CRITICAL 1ST HOUR
A Seminar for Nurses and Paramedics
Earle Brown Heritage Center,
Brooklyn Center, Minnesota
8:00 a.m. - 4:00 p.m.

June 15
FAMILY PRACTICE UPDATE
Presented by Diane Tanabe, M.D.
Phillips Eye Institute Ctr for Teaching/Research
2215 Park Avenue, Minneapolis

June 24-27
PHYSICIAN LEADERSHIP CONFERENCE
Grand View Lodge, Brainerd

July 15
PENETRATING KERATOPLASTY
Presented by Richard Lindstrom, M.D.
Phillips Eye Institute Ctr for Teaching/Research
2215 Park Avenue, Minneapolis

August 17
CURRENT CONCEPTS IN GLAUCOMA SURGERY
Presented by Dan Nichols, M.D.
Phillips Eye Institute Ctr for Teaching/Research
2215 Park Avenue, Minneapolis

For further information contact the Office of Continuing Medical Education, Health One (612) 574-7895 or call toll-free 1-800-343-3627

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Medical Affairs Division

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May 18 **Advanced Laparoscopic Seminar: Inguinal Herniorrhaphy, Appendectomy** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

May 19-21 **21st Annual Meeting** Great Plains Organization for Perinatal Health Care; Northland Inn, Minneapolis, MN. CONTACT: Mary McClung, 1100 South Euclid Avenue, Sioux Falls, SD 57117; 605/333-7191.

May 19-21 **National Conference on Sexual Compulsivity/Addiction** Office of CME, University of Minnesota Medical School; Cathedral Hill Hotel, Van Ness & Geary. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

May 20-24 **Team Management of Diabetes Mellitus** International Diabetes Center; International Diabetes Center, Minneapolis, MN. CONTACT: Cindy Poppitz, International Diabetes Center, 5000 West 39th Street, Minneapolis, MN 55416; 612/927-3393.

May 22-24 **International Symposium on Neuroblastoma Screening** Office of CME, University of Minnesota; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, MN 55455; 612/626-7600.

May 24 **Management of Pressure Sores for Primary Care** HCMC and Hennepin Faculty Associates; Hennepin County Medical Center, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

May 30-June 2 **20th Annual Workshops on Clinical Hypnosis—Introductory and Advanced** Office of CME, University of Minnesota Medical School; Sheraton Midway Hotel, St. Paul, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

JUNE 1991

June 12-14 **Topics & Advances in Pediatrics** Office of CME, University of Minnesota; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, MN 55455; 612/626-7600.

June 14 **Crisis Intervention: What Difference Does it Make?** HCMC and Hennepin Faculty Associates; Hennepin County Medical Center, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

June 18 **33rd Hitchcock Surgical Society Symposium** HCMC and Hennepin Faculty Associates; Hennepin County Medical Center, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

June 18-19 **Front Line Neurology: Primary Care Management of Patients with Neurological Problems** Abbott Northwestern Hospital; Marriott City Center, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

June 19 **Cutaneous Manifestations of Systemic Disease** Mesabi Regional Medical Center; Mesabi Regional Medical Center, Hibbing, MN. CONTACT: Diane Antonovich, Mesabi Regional Medical Center, 750 East 34th Street, Hibbing, MN 55746; 218/262-6927.

June 19-22 **55th Annual Course: Progress in Trauma and Critical Care Surgery** Department of Surgery, University of Minnesota Medical School; Willey Hall, U of M, Minneapolis, MN. CONTACT: Office of CME, University of Minnesota, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, MN 55455; 612/626-7600.

June 20 **Introductory Seminar: Lasers in General Surgery** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

June 21 **Family Practice Conference** The Duluth Clinic; Fitger's Spirit of the North Theatre, Duluth, MN. CONTACT: Barbara Jablonski, Manager, 300 East Third Street, Duluth, MN 55805; 218/725-3816.

June 21-22 **Comprehensive Laparoscopic Seminar: Cholecystectomy, Inguinalhaphy, Herniorrhaphy, Appendectomy, Peptic Ulcer Surgery** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

June 21-22 **Sexual Attitude Reassessment Seminars (SAR)** University of Minnesota; Program in Human Sexuality, Minneapolis, MN. CONTACT: SAR Coordinator, Program in Human Sexuality, 2630 University Avenue SE, Minneapolis, MN 55414; 612/627-4360.

JULY 1991

July 16 **Management of Depression** Mesabi Regional Medical Center; Mesabi Regional Medical Center, Hibbing, MN. CONTACT: Diane Antonovich, Mesabi Regional Medical Center, 750 East 34th Street, Hibbing, MN 55746; 218/262-6927.

July 20-27 **Ninth Annual Medical Seminar** North Memorial Medical Center, University of Minnesota Department of Family Practice, and St. John's Regional Health Center; Plummer's Great Slave Lake Lodge, NW Territories, Canada. CONTACT: Joseph F. Bocklage, M.D.; 612/588-9478.

SEPTEMBER 1991

Sept. 4-7 **Annual Forensic Science Seminar** HCMC and Hennepin Faculty Associates; Hennepin County Medical

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Multicare Associates of the Twin Cities, a multi-specialty/multi-location, predominately Fee for Service Group located in the northern suburbs of the Twin Cities is recruiting Board Certified/Board Eligible Physicians in the following departments:

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3017 Bloomington Avenue South
Minneapolis, Minnesota 55407
(612) 721-6511

Center, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Sept. 5 **Topics in Pediatric Emergency Medicine** Minneapolis Children's Medical Center; Massie Moos Auditorium Education Building, Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Kathy Ingerson, Minneapolis Children's Medical Center, 2525 Chicago Avenue South, Minneapolis, MN 55404; 612/863-5884.

Sept. 5-7 **Teaching Geriatric Medicine** Office of CME, University of Minnesota Medical School; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Sept. 6 **Annual Clinical Management of Osteoporosis** HCMC and Hennepin Faculty Associates; location to be announced. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Sept. 6-7 **Mayo Surgical Symposium** Mayo Clinic and Mayo Foundation; Mayo Clinic, Rochester, MN. CONTACT: Rita Kunz or Jan Fleck, Mayo Clinic, 200 1st Street SW, Rochester, MN 55905; 507/284-2509 or 800/323-2688.

Sept. 7 **Atherosclerosis: Beyond Cholesterol** Office of CME, University of Minnesota Medical School; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Sept. 13-15 **Surgical Medical Clinics for Primary Care** Office of CME, University of Minnesota Medical School; Grandview Lodge, Brainerd, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Sept. 19-20 **Annual Trauma and Critical Care Conference** HCMC and Hennepin Faculty Associates; Hennepin County Medical Center, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Sept. 19-20 **Practical Pediatrics** Children's Hospital of St. Paul; United Children's Conference Center, St. Paul, MN. CONTACT: Sue Hance, Health One CME, 2810 57th Avenue North, Minneapolis, MN 55430; 612/574-7895 or 800/347-3627.

Sept. 20 **Pain Management Strategies for Primary Care** HCMC and Hennepin Faculty Associates; Hennepin County Medical Center, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Sept. 20-21 **American College of Surgeons Commission on Cancer** Cancer Management Course; Mayo Clinic Facilities, Rochester, MN. CONTACT: Dr. John Donohue or Dr. David Nagorney, Mayo Clinic, Department of Surgery, Rochester, MN 55905; 507/284-2644.

Sept. 20-21 **Nursing Home Medical Directors** Office of CME, University of Minnesota Medical School; Sheraton Midway Hotel, St. Paul, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Sept. 22-24 **International Conference on the Treatment of Sex Offenders** Office of CME, University of Minnesota Medical School; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Sept. 26-27 **Annual Autumn Seminar: Obstetrics and Gynecology** Office of CME, University of Minnesota Medical School; Park Inn, Minneapolis, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Sept. 27 **Annual Contemporary Issues in Dialysis Therapy** HCMC and Hennepin Faculty Associates; Sheraton Midway Hotel, St. Paul, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Sept. 27 **Thrombolytic Therapy in Acute MI** Abbott Northwestern Hospital; Minneapolis Heart Institute, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

Sept. 27-28 **CO_2 Laser: An Introductory Course in Office and Outpatient Procedures** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

Sept. 27-29 **Update in Cardiovascular Diseases** Mayo Clinic and Mayo Foundation; Mayo Clinic, Rochester, MN. CONTACT: Rita Kunz or Jan Fleck, Mayo Clinic, 200 1st Street SW, Rochester, MN 55905; 507/284-2509 or 800/323-2688.

OCTOBER 1991

Oct. 2-4 **Fourth International Symposium on Biliary Stone Therapy** Mayo Clinic and Mayo Foundation; Mayo Clinic, Rochester, MN. CONTACT: Rita Kunz or Jan Fleck, Mayo Clinic, 200 1st Street SW, Rochester, MN 55905; 507/284-2509 or 800/323-2688.

Oct. 3-4 **Annual Forensic Science Seminar** HCMC and Hennepin Faculty Associates; Hennepin County Medical Center, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Oct. 11 **Annual Advances in Geriatric Care** HCMC and Hennepin Faculty Associates; Hennepin County Medical Center, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Oct. 11 **Current Clinical Cardiology & the 10th Annual Jesse E. Edwards Lectureship** St. Paul Heart Clinic/Health One CME; United Children's Conference Center, St. Paul, MN. CONTACT: Sue Hance, Health One CME, 2810 57th Avenue North, Minneapolis, MN 55430; 612/574-7895 or 800/347-3627.

Oct. 14-15 **Advanced Trauma Life Support (ATLS)** Health One; United Children's Conference Center, St. Paul, MN. CONTACT: Sue Hance, Health One CME, 2810 57th Avenue North, Minneapolis, MN 55430; 612/574-7895 or 800/347-3627.

Oct. 18 **Current Topics in Neurology & Psychiatry** HCMC and Hennepin Faculty Associates; Minneapolis Athletic Club, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Oct. 25-26 **Fourth Annual New Ulm Fall Seminar** Sioux Valley Hospital/Health One; Sioux Valley Hospital, New Ulm, MN. CONTACT: Sue Hance, Health One CME, 2810 57th Avenue North, Minneapolis, MN 55430; 612/574-7895 or 800/347-3627.

NOVEMBER 1991

Nov. 1 **Thrombolytic Therapy in Acute MI** Abbott Northwestern Hospital; Minneapolis Heart Institute, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

Nov. 1 **Upper Midwest Sleep Society Meeting** HCMC and Hennepin Faculty Associates; St. Paul Hotel, St. Paul, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Nov. 7-8 **Medical Intensive Care Conference** HCMC and Hennepin Faculty Associates; Hennepin County Medical Center, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Nov. 8 **Pediatric Orthopedics / Rheumatology for the Primary Care Practitioner** Minneaplis Children's Medical Center; Massie Moos Auditorium Education Building, Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Kathy Ingerson, Minneapolis Children's Medical Center, 2525 Chicago Avenue South, Minneapolis, MN 55404; 612/863-5884.

CONTINUING MEDICAL EDUCATION
ST. PAUL-RAMSEY MEDICAL CENTER

Fall Conference Schedule

Mark your calendar now for these upcoming conferences:

1991	
October 18	Bioethics Course, St. Paul
October 24-25	Emergency Medicine, St. Paul
November 14-16	Primary Care Medicine, St. Paul
November 19	Advanced Burn Life Support Pre-hospital, St. Paul
November 20	Advanced Burn Life Support Pre-hospital, St. Paul
November 21-22	Trauma, St. Paul
December 5-7	Cardiopulmonary Medicine, St. Paul
1992	
March 12-13	Family Practice Update, St. Paul
March 20	Occupational Medicine Update, St. Paul
April 2-3	Ob/Gyn Update, St. Paul

Information and Registration

Continuing Medical Education, St. Paul-Ramsey Medical Center
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RAMSEY

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Classified rates are 50¢ a word. Minimum monthly charge is $10; with box number $2 additional. Ads will not be accepted by phone.

- Placement of ads must be made six weeks before the date of publication (i.e., May 15 for July ad). Please send ad requests to *Minnesota Medicine*, 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414.
- The publisher reserves the right to decline or withdraw advertisements. The publisher is not responsible for clerical or typographical errors and is not permitted to divulge the identity of advertisers who have replies sent to box numbers.
- Cancellation of ads must be made by the first of the month preceding month of issue.

Twenty-nine Physician Multispecialty Clinic located in desirable east-central Wisconsin location is seeking board-certified or board-qualified orthopedic surgeon to round out its services. Lab, X-ray, excellent hospital. Liberal guarantee and benefits. If interested, contact: D.F. Sweet, M.D., Fond du Lac Clinic, S.C., 80 Sheboygan Street, Fond du Lac, WI 54935. (R)

Family Physician/Emergency Room: Full-time salary working weekends, primarily emergency room. Flexibility available. Falls Medical Center, PA, 105 Shorewood Drive, International Falls, MN 56649. Please contact: A. Johnson, M.D., or A. Marc Gorden, M.D., at 218/283-9431 for more information. (R)

Family Physician wanted to join four physicians, one nurse practitioner, FP group practicing in two offices in Pine River and Pequot Lakes. Competitive salary. No ob. No HMOs. Rural area with outdoor recreational opportunities. Rotate call; adequate free time. Call or write: Gary G. Kohls, M.D., Pine and Lakes Clinics, PO Box 88, Pine River, MN 56474; 218/587-4416. (R)

Physician: GP/FP/EM seeks locations to cover on weekends as locum tenens. Board-certified. FP. Lic. Minn. Write: Box 35132, Minneapolis, MN 55436. (R)

Family Physician: Dynamic 14-physician, two-PA, three-office, single-specialty practice in northwest Minneapolis suburbs seeking additional associate, BC/BE; ob available. Competitive salary, full benefits, reasonable call and hospital rounds schedule. Contact: Dr. Diane Shuck, 612/537-8405; or Mark Pottanger, 612/537-8475, Northwest Family Physicians. (*R)

Wausau Medical Center is seeking BC/BE individuals in the following specialties: cardiology, dermatology, family practice, infectious disease, obstetrics/gynecology, pediatrics, and rheumatology. Modern clinic facility located across the street from modern, 300-bed hospital. Full partnership in three years. Easy access to lakes, woods, and mountains. Write (including CV) to: D.K. Aughenbaugh, M.D., Medical Director, Wausau Medical Center, 2727 Plaza Drive, Wausau, WI 55401. (R)

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Bemidji, Minnesota: Excellent opportunities for well-trained physicians. We are seeking BC/BE physicians in family practice, ophthalmology, pediatrics, and otolaryngology to join a young 30-physician multispecialty group practice located in northern Minnesota. Competitive salary guarantee plus incentive first year and excellent benefits. An excellent opportunity for a physician to enjoy practice in the center of hunting, fishing, and clear air. Please respond with CV to: C.C. Lowery, Administrator, Bemidji Clinic-MeritCare, 1233 34th Street NW, Bemidji, MN 56601; 218/751-1280. (R)

Outstanding Opportunity for a BC/BE Family Physician to join a progressive medical community with eight physicians oriented to family practice. Details will be given by contacting: Dr. Tim Schmitt, Wadena Medical Center, 218/631-1360, or Jim Lawson, Administrator, Tri-County Hospital, Wadena, MN 56482; 218/631-3510. (R)

Locum Tenens physicians needed. Physicians and locations coordinating services. Write to: Margaret Carse, MED Professional Resource Search, PO Box 35215, Minneapolis, MN 55435. (10/89-R)

Family Practice: Physicians seeking a BC/BE family practice physician for the Norway, Michigan, service area. The physician would have the option of joining one of the existing practices and/or setting up his/her own practice. Anderson Memorial Hospital is a part of Dickinson County Hospitals and has a service-area population of over 45,000. Contact: Dr. Paul Hayes, Anderson Memorial Hospital, Main Street, Norway, MI 49870; 906/563-9243, or office 906/563-9255. 2-5/91

Urgent Care/Primary Care physicians for over 90 group positions in metropolitan Phoenix/Tucson, Arizona. Excellent compensation/partnership opportunities. Other quality positions nationwide. Send CV or call: Mitch Young (MM), PO Box 1804, Scottsdale, AZ 85252; 602/990-8080. (*1/90-R)

Mankato: FP partner to join four board-certified family physicians, ages 31-41, in fast-growing, full-range practice, includes ob. Population 40,000+. Seventy miles to Twin Cities. Four colleges nearby. Ninety+ physicians on hospital staff. Academic appointment available. Call: Tony Giefer, M.D.; 507/387-8231. (1/90-R)

Family Physicians: Well-established south suburban Minneapolis family practice group seeks associates part/full time to staff day clinic. Excellent call schedule, salary, and fringe benefits. Also seeking locum tenens to staff PT/FT Urgent Care Centers and/or day clinic. Contact: Administration, Family Physicians, P.A., 612/435-4125, or send inquiries to Suite 100, 14050 Nicollet Avenue South, Burnsville, MN 55337. (*9/89-R)

Dermatologist, Psychiatrist, Allergist, Internal Medicine, Family Practice: A progressive, 126-bed, two-hospital system is seeking the above specialties to establish practices in the Iron Mountain area of Michigan's Upper Peninsula. Must be BC/BE. Located 100 miles north of Green Bay, Wisconsin. Dickinson County Hospitals has a medical staff of 45 full-time physicians and a total service-area population of over 45,000. Diagnostic capabilities include a CT scanner, CO_2 laser, and a fully staffed special diagnostic department. Contact: John Schon, Administrator, Dickinson County Hospitals, 400 Woodward Avenue, Iron Mountain, MI 49801; 906/779-4500. *2-6/91

BC/BE Family Practice and Internal Medicine Physician: Excellent opportunity to join well-established, progressive, 20-physician multispecialty group located in an economically sound community of 20,000 (drawing area of 30,000), 65 miles south of the Twin Cities. Full membership after one year. Competitive salary and fringe benefits package. Contact: Ed Durst, M.D., or Terry Tone, Administrator, 134 Southview, Owatonna, MN 55060; 507/451-1120. (2/90-R)

Internist to join a progressive 13-physician group practice. Rural college town 30 miles from St. Paul, Minnesota, constructing new clinic and hospital. Contact: Robert B. Johnson, M.D., River Falls, WI 54022; 715/425-6701. (*3/91-R)

Family Practitioner to join a progressive 13-physician group practice. Rural college town 30 miles from St. Paul, Minnesota, constructing new clinic and hospital. Contact: Robert B. Johnson, M.D., River Falls, WI 54022; 715/425-6701. (*3/90-R)

Phoenix, Arizona: BC/BE family physician needed for established medical group. Practice located in a desirable high-growth area. Excellent compensation and benefits package. Send CV to: Minnesota Medicine (843), 2221 University Avenue SE, Suite 400, Minneapolis, MN 55414. 12-7/91

Rice Clinic Medical Center

CENTRAL WISCONSIN

The Rice Clinic, an expanding 29 physician, multispecialty group, is seeking **BC/BE** general internist to join **Internal Medicine** department consisting of five general internists, two nephrologists and one gastroenterologist. Very desirable university city with many outdoor recreational and cultural amenities. Attractive income and ownership arrangements. Other areas of expansion may provide opportunity for spouse if also a physician.

Send CV to:
Paul Ford, Administrator
Rice Clinic, S.C.
2501 Main Street
Stevens Point, WI 54481
or call collect:
(715) 344-4120

Forest Lake Doctor's Clinic is seeking a BC/BE family physician, pediatrician, ob/gyn, and internist to join 10-physician multispecialty group. Located 25 miles north of Minneapolis-St. Paul in progressive community with excellent schools, many beautiful lakes, recreational activities, golf, fishing, boating, skiing. Local hospital directly across street. Contact: Dr. Harvey J. Frank or Dr. Doug Sill, 121 SE 11th Avenue, Forest Lake, MN 55025; 612/464-7100. (4/90-R)

Family Practice, Internal Medicine, Pediatrics, Urology, Obstetrics and Gynecology, Dermatology, and Orthopedics practice opportunities available at the Faribault Clinic. The Faribault Clinic is a multispecialty group practice of 14 physicians. Faribault is located 50 miles south of Minneapolis on I-35. For more information contact: Ray W. Wood, M.D., or Ken Smith, Administrator, 924 NE 1st Street, Faribault, MN 55021; 507/334-3921. (4/90-R)

Family Physician: Tired of call? Want predictable hours? Full-time physician needed to work three days per week in our outpatient family practice clinics. One position open immediately. Salary plus bonus and benefits package including malpractice insurance. Contact: Todd Patton, M.D., or William Wenmark, CEO, c/o NOW Care Medical Centers, 13031 Ridgedale Drive, Minneapolis, MN 55343; 612/593-9010. (5/90-R)

Downtown Office Space for Rent: Physician in the Medical Arts Building, 825, wishes to sublet to another physician on a part-time basis for the purpose of sharing overhead expenses. Call: 612/370-0553. (6/90-R)

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Oxboro Clinics, a large, progressive, multi-specialty practice with offices in Bloomington and Burnsville, offers outstanding physician opportunities.

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- **General Practice/ Family Practice**

For more information, contact:

Jennifer J. Mitchell
Fairview Physician & Clinic Services
600 West 98th Street, Suite 390
Bloomington, MN 55420
(612) 885-6225
or toll free 1-800-842-6469

OXBORO CLINICS

Mankato Clinic, Ltd. is seeking BC/BE physicians in the following specialties: dermatology, invasive cardiology, ob/gyn, oncology/hematology, pulmonary medicine, vascular surgery, family practice, pediatrics, and general internal medicine. The Mankato Clinic is a 43-doctor multispecialty group practice in south-central Minnesota with a trade area population of +200,000. Guaranteed salary first year, incentive thereafter with full range of benefits and liberal time off. For more information call: Roger Greenwald, Administrator, or Dr. B.C. McGregor, 507/625-1811, or write: 501 Holly Lane, Mankato, MN 56001. (6/90-R)

Wisconsin: Third BC/BE obstetrician/gynecologist needed to join stable, progressive, primary-care-based HMO/group practice in university town of 60,000 near Minneapolis-St. Paul. Excellent quality of life and outstanding recreational area. Competitive salary and fringe benefits. Contact: Stuart R. Lancer, M.D., Medical Director, Group Health Cooperative, PO Box 3217, Eau Claire, WI 54702-3217; 715/836-8552. *3-5/91

Family Practice / North Shore Lake Superior: BC/BE family physician to join busy practice in primary care clinic of four family physicians with consulting internist, ophthalmologist, general surgeon, and orthopedic surgeon. Advantages of living in a small town while being only 22 miles from Duluth metro area. Contact: Lee Cohen or Steve Bjorum, Administrator, Community Health Center, Inc., 4th Street at 11th Avenue, Two Harbors, MN 55616; 218/834-7207. EOE/AA. (8/90-R)

Olmsted Medical Group is currently seeking BC/BE physicians in the following specialties: general surgery, family practice, emergency medicine, pediatrics, and ob/gyn. Excellent opportunity for well-trained physicians to join a 50+ physician multispecialty group in an established, progressive practice. In addition to the recently expanded main office in Rochester, Minnesota, the group operates eight branch offices in southeastern Minnesota. Affiliate hospital recently underwent complete renovation and expansion. Competitive salary/benefits package includes malpractice insurance, flexible benefits plan, 401(k) and profit sharing, and relocation assistance. Send CV to: Olmsted Medical Group, Attn: Susan Schuett, 210 Ninth Street SE, Rochester, MN 55904. (8/90-R)

Lake City, Minnesota: Family physician BC/BE needed to join three other FPs in progressive, growing practice on Lake Pepin/Mississippi River in southeastern Minnesota. Excellent first-year salary/benefits in a scenic community with multiple recreational opportunities. Contact: D.D. Pflaum, M.D., 303 South Washington, Lake City, MN; 612/345-3318. (8/90-R)

MDsearch assists medical groups and hospitals in their recruiting efforts. For confidential information on opportunities in the Upper Midwest, send CV and/or call collect: Mary Jo Cordes, MDsearch, PO Box 21507, St. Paul, MN 55121; 612/454-7291. 12-8/91

Family Practice—Hospital-sponsored Clinic Opportunity: Dynamic, growth-oriented hospital in beautiful north-central Wisconsin is seeking family physicians to join a growing practice in a new facility. The administrative burdens of medical practice will be minimized in this hospital-managed clinic. The hospital has committed to an income and benefits package that is significantly higher than similar opportunities. Package includes base income, incentive bonus, malpractice, disability, signing bonus, and student loan reduction/forgiveness program. All relocation costs will be borne by the hospital. Please contact: Kari Wangsness, Associate, The Chancellor Group, Inc., France Place, Suite 920, 3601 Minnesota Drive, Bloomington, MN 55435; 612/835-5123. (12/90-R)

Lake Region Clinic, Brainerd, Minnesota: Recruiting two family practice physicians to join six family practice physicians. Able to do the full scope of family practice including ob and ICU. Good cooperative working relationship with specialists in orthopedic surgery, urology, ENT, OBG, general surgery, internal medicine, ophthalmology, and psychiatry. Modern, well-equipped 160-bed hospital within two blocks. We offer first-year guarantee plus incentive, vacation time, CME study time, insurance, and more. Send CV or contact Darral Mischke, Administrator, or David Boran, M.D., at 218/829-3568. 6-5/91

Midwest: Dakota Medical Center is looking for a fifth ED physician. BC/BE in emergency medicine preferred, but primary care boards with ED experience acceptable. We are a large multispecialty group of 150+ members with all major subspecialties represented. Stockholdership in clinic after two years. Excellent benefits package. Extremely flexible hours in ED (up to 1,760/year), with option to work more in outpatient clinics if desired. Starting salary is >$60/hour. We have experienced a 20 percent increase in patient volume in the past two years, now seeing 18,000/year. Contact: Dakota Clinic, Ltd., Recruiting Division, 1702 South University Drive, Fargo, ND 58103; 701/280-8520. *6-7/91

Family Physician BC/BE: Immediate opportunity to join family practice clinic in Minneapolis. Practice will allow part-time or full-time schedule. Competitive salary and benefits. Interested candidates send CV to: Jean Burns, 10501 Wayzata Blvd., Minnetonka, MN 55343; 612/544-2605. (3/91-R)

Office Space in Lakeville: 700 square feet, suitable for one or two doctors, any specialty. Equipment option. Call: 612/469-1886 or 612/469-4500. 4-6/91

Health Service on a 2,000-student, liberal arts campus, plus solid clinic practice with group of eight physicians, ob optional. One hundred miles south of Fargo, or 150 miles west of Minneapolis/St. Paul. Contact: Mike Busian, M.D., or Mike Flicker, Administrator, Morris Medical Center, 23 Montana Avenue, Morris, MN 56267; 612/589-3232. 6-8/91

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Rewarding opportunities are currently available for BC/BE physicians in the following areas:

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- **Dermatology**
- **Family Practice**
- **Opthalmology (Glaucoma or Pediatric Specialist)**
- **Neurology**
- **Orthopedics (Pediatric)**
- **Physical Medicine and Rehabilitation**
- **Pulmonology**

We offer competitive salaries, a flexible benefits package and excellent continuing education opportunities. Please send your CV to: **Mike Griffin, Physician Recruitment, The Duluth Clinic, Ltd., Dept. T-5, 400 East Third Street, Duluth, MN 55805. Or Call TOLL-FREE 1-800-342-1388.**

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Our integrated, multispecialty, 18-member medical practice has positions available for BE/BC physicians in the areas of:

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- Obstetrics/Gynecology
- Internal Medicine
- Urgent Care

This is your opportunity to join a progressive, growing medical team located in a land of lakes only 35 minutes from Minneapolis and St. Paul.

Contact: **Scott Wordelman, President**
Chisago Health Services
11685 Lake Blvd., N.
Chisago City, MN 55013

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Internal Medicine
Orthopedic Surgery
Obstetrics/Gynecology

Eight weeks vacation and meeting time, standard benefits package, and above average salary leading to shareholder status in the corporation with minimum buy-in.

For more information contact:
John Sieve, Administrator
Worthington Medical Center, P.A.
508 Tenth Street, P.O. Box 86
Worthington, MN 56187
Phone: 507-372-2921

Wisconsin—Family Practitioner Needed by progressive and growing group practice in west-central Wisconsin city of 60,000. Ninety miles from Minneapolis/St. Paul. Primarily prepaid practice with large component FFS. Highly competitive salary with excellent fringe benefits. Practice high-quality care in a good recreational area. Send CV to: Stuart Lancer, M.D., PO Box 3217, Eau Claire, WI 54702-3217; 715/836-8552. *3-5/91

Wisconsin: 120-physician multispecialty clinic in the Fox River Valley of northeastern Wisconsin desires two BC/BE pediatricians to join department of 15 BC/BE pediatricians. Excellent compensation and benefits package, leading to shareholder status after two years. The community offers a superb recreational, cultural, and family environment in which to practice. For information please call or write: Howard Kidd, M.D., La Salle Clinic, 411 Lincoln Street, Neenah, WI 54956; 414/727-4276. (3/91-R)

Burdick Treadmill and EKG for lease/rent and used medical equipment and supplies for sale. Excellent condition. Call 218/828-1358. 6-8/91

Family Physician wanted to join three board-certified M.D.s in well-established, expanding group practice. Weekend ER coverage. No buy-in. Financial package hard to beat. Enjoy a progressive, rural city within easy reach of St. Cloud and Minneapolis. Contact: Dr. Jim Mohs, Melrose Clinic, 603 West Main Street, Melrose, MN 56352; office, 612/256-4228; home, 612/256-3488. (4/91-R)

General Surgeon to join a progressive 12-physician group practice. Rural college town 30 miles from St. Paul, Minnesota, constructing new clinic and hospital. Contact: Robert B. Johnson, M.D., River Falls, WI 54022; 715/425-6701. (*4/91-R)

General Internal Medicine: Marshfield Clinic, a 350-physician multispecialty group practice, is seeking BC/BE family practitioners to join expanding regional centers. Positions are available in west-central, northwestern, and north-central Wisconsin. These are beautiful, wooded Wisconsin areas with an abundance of lakes, rivers, and streams. All are ideally suited for physicians seeking to combine professional excellence in a Midwest, family-oriented location offering exceptional four-season recreational activities. Wisconsin consistently leads the nation in ACT and SAT scores, and the school systems in these communities are excellent. Each opportunity offers a superlative lifestyle. Each has its own special qualities with more attractive features relative to individual needs and preferences. Starting salary up to $99,700, with salary in two years up to $131,600. Fringe benefits package is outstanding. If this combination of professional excellence and lifestyle made possible through the back-up resources of a leading medical center in conjunction with the uncommon, varied beauty of Wisconsin's land and lakes sounds interesting to you, please send CV and references to: David L. Draves, Director of Regional Development, 1000 North Oak Avenue, Marshfield, WI 54449; or call 800/826-2345, Ext. 5376. *4-7/91

Family Practice: Marshfield Clinic, a 350-physician multispecialty group practice, is seeking BC/BE family practitioners to join expanding regional centers. Practice opportunities range in size from single specialty groups of three to multispecialty groups of 35. Positions are available in west-central, northwestern, and north-central Wisconsin. These are beautiful, wooded Wisconsin areas with an abundance of lakes, rivers, and streams. All are ideally suited for physicians seeking to combine professional excellence in a Midwest, family-oriented location offering exceptional four-season recreational activities. Wisconsin consistently leads the nation in ACT and SAT scores, and the school systems in these communities are excellent. Each opportunity offers a superlative lifestyle. Each has its own special qualities with more attractive features relative to individual needs and preferences. Starting salary up to $99,700, with salary in two years up to $131,600. Fringe benefits package is outstanding. If this combination of professional excellence and lifestyle made possible through the back-up resources of a leading medical center in conjunction with the uncommon, varied beauty of Wisconsin's land and lakes sounds interesting to you, please send CV and references to: David L. Draves, Director of Regional Development, 1000 North Oak Avenue, Marshfield, WI 54449; or call 800/826-2345, Ext. 5376. *4-7/91

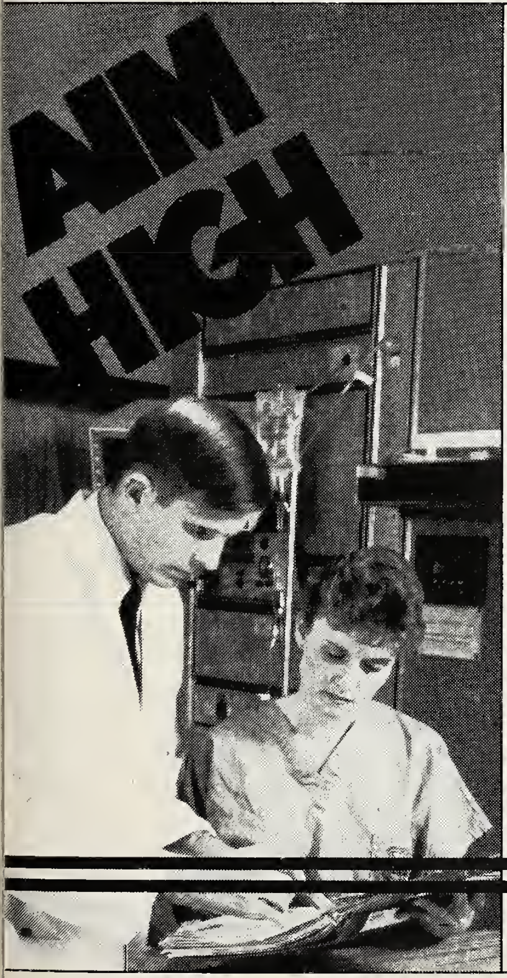
Emergency Medicine: Marshfield Clinic-Lakeland Center, located in the beautiful Lakeland area of northern Wisconsin, is seeking an ER physician. This individual must be BC/

BE in FP, IM, or EM. This opportunity offers a challenging variety of patients, within a multispecialty group representing 13 specialties available for back-up. The Lakeland area offers a unique recreation-oriented lifestyle, and this position with a 48-hour work week will afford you the leisure time to enjoy it. Compensation includes a competitive salary along with one of the finest fringe benefits packages in the country. If you want to combine professional excellence with personal satisfaction and this opportunity sounds interesting to you, please send CV and references to: David L. Draves, Director of Regional Development, 1000 North Oak Avenue, Marshfield, WI 54449; or call 800/826-2345, Ext. 5376. *4-7/91

Internal Medicine and Family Practice Physicians—BC/BE: Exceptional opportunity to join our well-established, very busy multispecialty clinic located in Milwaukee. Attractive and well-equipped building, including in-house laboratory, X-ray department, business department, etc. Excellent progressive hospitals, medical school, regional medical center. The greater Milwaukee area offers superb family environment, diverse cultural and recreational options. This is a unique, outstanding professional and personal opportunity! Please send CV or contact: Jonathan Slomowitz, M.D., Mitchell Medical Center, 1672 South Ninth Street, Milwaukee, WI 53204; 414/383-4700. (4/91-R)

Interested in a Second Specialty? The United States Navy has positions available in aerospace medicine (flight surgeon). Upon completion of a minimum commitment of two years in this role, you will be given priority for any specialty training program within Navy Medicine. Options include but are not limited to: anesthesiology, family practice, internal medicine, neurology, neurosurgery, obstetrics and gynecology, orthopedic surgery, pathology, pediatrics, plastic surgery, psychiatry, radiology, surgery, and urology. Those selected must meet all requirements for appointment as Navy Medical Corps officers. Send CV to: Navy Medical Programs, 212 Third Avenue South, Minneapolis, MN 55401; 800/247-0507. Confidentiality will be maintained in all correspondence. *2-6/91

The University of Minnesota School of Dentistry invites applications for research specialist (M.S. required), research fellow (D.D.S. required), research associate (Ph.D. required), and postdoctoral associate (Ph.D. required) positions. Applicants must have at least two years of research training. Positions will provide research expertise in plan-



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ning and execution of research design and methodology. The University of Minnesota is an equal opportunity educator and employer and specifically invites and encourages women and minorities. Send résumé, indicating areas of research training by 6/30/91 to: Dean Richard P. Elzay, University of Minnesota School of Dentistry, 515 Delaware Street SE, Minneapolis, MN 55455. *1-5/91

Internal Medicine Physician BC/BE to join 25-physician multispecialty group in Winona, Minnesota, with existing 10-physician Internal Medicine Department. Total draw of 40,000 population. Competitive salary offered. Interested physicians please contact: J.B. Knuesel, Administrator, Winona Clinic, Ltd., 420 East Sarnia, Winona, MN 55987. 3-6/91

The University of Minnesota School of Dentistry invites applications for part-time and full-time non-regular faculty for consultative diagnostic and treatment planning services in specialty clinics. M.D. required, with training and experience in otolaryngology, cleft palate patient care, and/or physical medicine and rehabilitation with experience in chronic pain. The University of Minnesota is an equal opportunity educator and employer and specifically invites and encourages women and minorities. Send résumé (indicating specialty or area[s] of clinical expertise) by 6/30/91 to: Dean Richard P. Elzay, University of Minnesota School of Dentistry, 515 Delaware Street SE, Minneapolis, MN 55455. *1-5/91

Office Space Available 5/1/91 for sublease. 1,220 square feet, Southdale Medical Building. Two exam rooms, conference room, waiting/reception area. Inquiries: 612/922-6074. 2-6/91

BC/BE Ob/Gyn to join existing two-person practice at the 25-physician multispecialty Winona Clinic, Ltd., in Winona, Minnesota. Located in the beautiful Mississippi River Valley of southeast Minnesota, the community (with a 40,000-population trade area) is the host of two colleges and a diverse industrial base. Send CV to: J.B. Knuesel, Administrator, Winona Clinic, Ltd., 420 East Sarnia, Winona, MN 55987. 3-7/91

Minnesota—Pediatrician to join existing two-person practice at the 25-physician multispecialty Winona Clinic, Ltd., in Winona, Minnesota. Located in the beautiful Mississippi River Valley of southeast Minnesota, the community (with a 40,000-population trade area) is the host of two colleges and a diverse industrial base. Send CV to: J.B. Knuesel, Administrator, Winona Clinic, Ltd., 420 East Sarnia, Winona, MN 55987. 3-7/91

Family Practitioner: Community of 2,000, 50 miles north-

Physicians who have joined the East Range Clinics in 1990: *(Standing, left to right)* Nancy L. Wipf, M.D.; Wayne R. Kaniewski, M.D.; David W. Brenner, M.D.; Gary J. Whitesell, M.D.; *(seated, left to right)* Brian C. Pfeifer, M.D.; and Cathy J. Brenner, M.D.

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Call or send CV in strictest confidence to:

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east of Minneapolis/St. Paul, seeks additional family practitioner. Located on the St. Croix River and Minnesota border. Practice consists of 13 family practitioners, two internists, two general surgeons, and one orthopedic surgeon. Many specialists available on a part-time basis. Attached to a 90-bed hospital with comprehensive services available. Very stable medical group with pleasant working conditions in a continuous growth mode. Guaranteed first-year salary with second-year partnership. Fringes include excellent retirement package and auto. Contact: Lenny Libis, Administrator, at 715/483-3221. 6-10/91

Iowa Practice Opportunity in Estherville. Family physician needed to join established rural clinic. Located close to outdoor recreational areas, offers easy access to larger metropolitan cities in Iowa and Minnesota. Competitive salary and signing bonus available. Opportunity of practice ownership. Contact: Bill Tendle, LifeSpan, 800 East 28th Street, Minneapolis, MN 55407; 800/248-4921. *3-7/91

Medical Director for nursing home in Plymouth. Guide and advise staff on medical issues and policies, oversee medical care, and participate on Quality Assurance Committee. Interest and/or expertise in geriatrics and chemical dependency helpful. Caring and progressive staff. Flexible terms and competitive fee. Contact: Wayne Ward, Administrator, Mission Farms Nursing Home, 3401 East Medicine Lake Boulevard, Plymouth, MN 55441; 612/559-3123. *1-5/91

Pleasant Family Practice available in relaxed western Illinois community. Proximity to the Mississippi offers abundance of outdoor recreational facilities. Opportunity involves a solo, partnership, or group practice. Benefits may include an income guarantee, financial incentives, relocation assistance, exceptional call coverage, and more. Call: 800/969-7715; Dan Jones, Gielow/Laske Associates, 306 North Milwaukee Street, Milwaukee, WI 53202. *1-5/91

General Medicine: Position available with Cancer Detection Center at University of Minnesota. Clinic focus is on health risk screening and assessment. Hourly wage. Part-time, flexible hours. No weekends. No call. Current Minnesota license required. For more information, call/write: Dr. Clarence Dennis, Director, Box 99 UMHC, Harvard Street & East River Road, Minneapolis, MN 55455; 612/625-6970. *1-5/91

Medical Office Building available February 1992: 6,000 square feet, 12 exam/consultation rooms, scenic location. Call: M.H. Hunter, M.D., 612/463-7181. Write: 310 Division Street, Farmington, MN 55024. 1-5/91

General Internist: Park Nicollet Medical Center is a 320-physician multispecialty clinic in Minneapolis. Our general medicine sections are expanding in both urban and suburban locations. We offer competitive salaries and excellent benefits. If you are a BC/BE general internist interested in a group practice setting, send your CV to: Robert Lohr, M.D., Chairman, Department of Internal Medicine, Park Nicollet Medical Center, 5000 West 39th Street, Minneapolis, MN 55416. *1-5/91

FAMILY PRACTICE

Private Practice opportunities are available in the following areas:

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- Grantsburg, WI
- Hopkins, MN
- Hutchinson, MN
- Litchfield, MN
- Minneapolis, MN
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- Mound, MN
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Mora, Minnesota—Family Physician needed to join a seven-member FP group. We are a well-established, expanding practice and offer competitive salary and benefits package with partnership available. We have JCAHCO-accredited hospital, on-site consultations from numerous specialty disciplines, satellite offices located in Pine City and Hinckley. Mora is a progressive community located 65 miles north of the Twin Cities with an excellent school system and many cultural and recreational opportunities within easy access. Contact: Larry J. Brettingen, M.D., 224 Seventh Street, Mora, MN 55051; 612/679-1340. 6-10/91

Eugene, Oregon: 42-physician multispecialty group is seeking BC/BE family physician. Practice includes ob. Excellent schools. Abundant cultural and recreational opportunities. Near Cascade Mountains and coast. Home of University of Oregon. Please send CV to: Rob Dougherty, M.D., Oregon Medical Group, 2484 River Road, Eugene, OR 97404; or phone: 503/688-9140. 3-7/91

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Sioux Empire Medical Center
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- Family Practice

Guaranteed first year salary. Production program thereafter with a full fringe benefit package.

If interested in joining a progressive Medical Group in Central Minnesota, call or send C.V. to:

Daryl G. Mathews
Administrator
St. Cloud Medical Group
1301 W. St. Germain Street
St. Cloud, MN 56301
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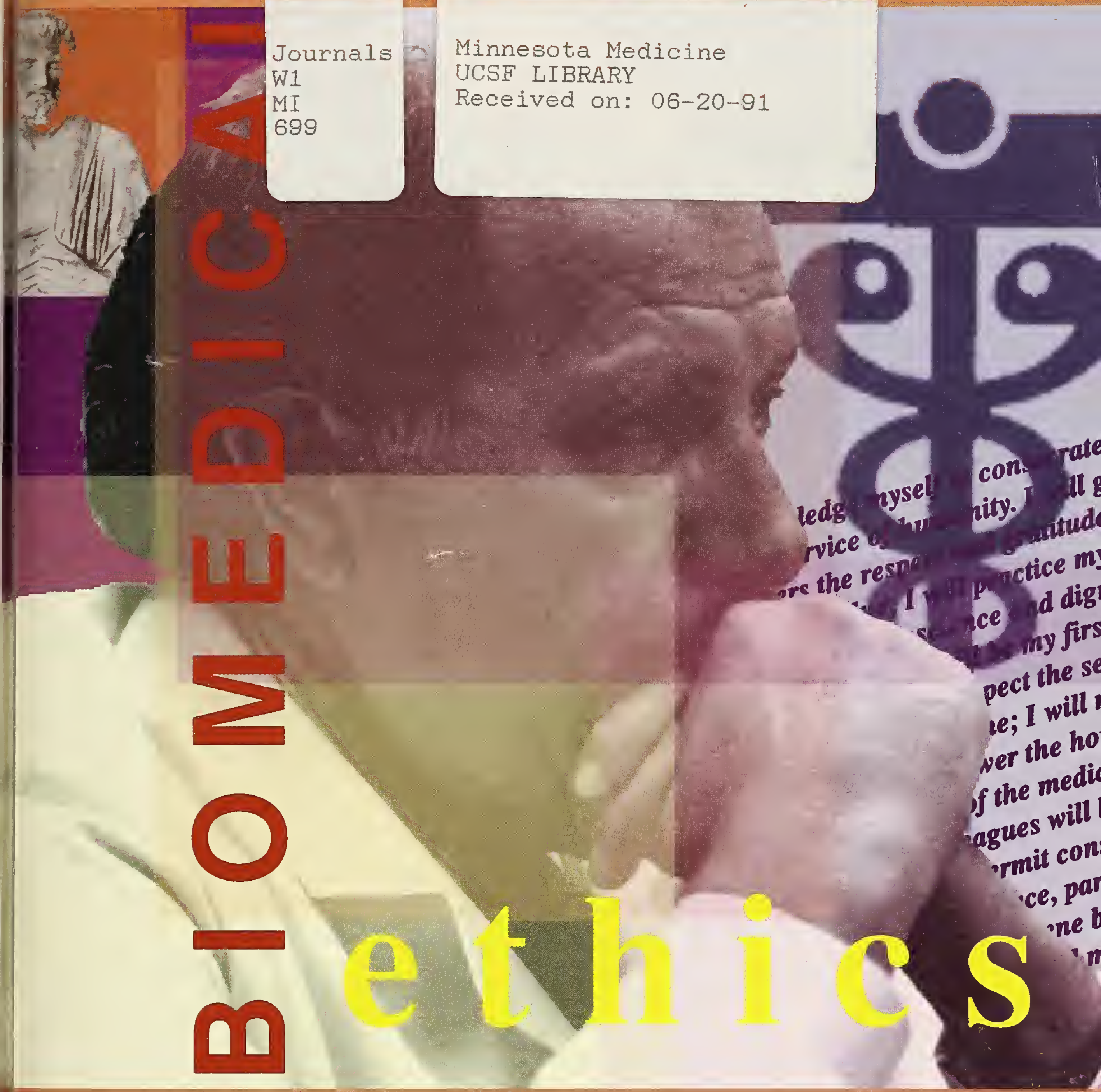

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JUNE 1991

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COVER

Biomedical Ethics is considered a new field, but its roots date back to the fourth or fifth century B.C. and the writing of the Hippocratic Oath. Physicians since have practiced bioethics, weighing right and wrong on the moral scale of the time. As medicine has become increasingly complex in recent decades, the field of bioethics has emerged. This month's feature story (page 19) examines the field and its pioneers, many whom, including the often-controversial Ronald Cranford, M.D., (pictured) work right here in Minnesota.

Cover design by Cynthia Huff.

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Biomedical Ethics Has Much to Offer

But It Doesn't Have All the Answers

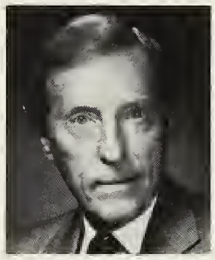
Edmund C. Burke, M.D.

Quinlan. Cruzan. Kevorkian. These names are familiar to us because the moral dilemmas they posed raised our collective interest. Like countless others that have evolved with modern medicine, their cases illustrate the growing complexity of ethical decision making in medicine.

As increasingly difficult issues have emerged, so, too, has the field of biomedical ethics, which we examine in this month's feature story (page 19). In our efforts to find out more about ethical decision making and the decision makers themselves, we discovered that Minnesota is home to some national leaders in what remains a fledgling field.

As a recent *Brandeis Review* article states, "Young, largely undefined, and ungoverned, the practice of biomedical ethics is not a cure-all."

Indeed, the field has weaknesses common to any new discipline. Among them is the fact that there is currently no agreed upon training that guarantees the competence of people who call themselves biomedical ethicists or bioethics consultants. People with diverse backgrounds—medicine, nursing, philosophy, and law among them—take many different routes to becoming biomedical ethicists. This is not a bad thing, but it does leave open the question of who is and who is not qualified to be called a bioethicist. I find this significant for physicians, in particular, because we all practice medical ethics. We have all studied the profession's ethical standards and, through our training, have learned the proper approach to problem solving. As early as the fourth or fifth century B.C., physicians began following the noble code of ethics set forth by Hippocrates in ancient Greece.



"Minnesota is home to national leaders in what remains a fledgling field."

Traditionally, we have consulted our peers when difficult issues arise. Now, I am concerned that hospitals and physicians will too quickly choose to involve ethics consultants and committees in decisions that are better made by the patient, family, and attending physician. Patients can get lost in the shuffle when too many "experts," whether they are medical specialists or ethicists, enter the health care arena.

When I served on an ethics committee, I found that participants had a tendency to create extensive, and not always practical, debate. Many times I left those meetings unsure what had been accomplished.

A few years ago, I reviewed a book entitled "Playing God in the Nursery" by Chicago journalist Jeff Lyon. The book recounts the birth of Baby Doe to an Indiana couple. The infant had Down's syndrome, a tracheoesophageal fistula, and probably congenital heart abnormalities. When the parents chose not to pursue medical treatment of their child, the resulting furor sent the case to the Indiana Supreme Court. The case was headed for the U.S. Supreme Court when the 6-day-old infant died. This is an example of the medical decision-making process gone amok.

Lyon writes that ethical ethos in the natural world is an irreducible quantity that will not go away. He believes efforts to solve current moral dilemmas will cause newer and increasingly stubborn ones to emerge. It is in the general discussion of such societal moral dilemmas that bioethics consultants and committees are important.

Ethicists and ethics committees make recommendations, not rules. It is their job to help health care providers develop a system of values or principles for making decisions and then help them apply those principles to the decisions they make in their practices.

Reassuringly, biomedical ethicists say most health care decisions will continue to be made by the patient and physician and only in rare instances will an ethicist or ethics committee need to be consulted. They also insist that they are not experts, but rather, have expertise in certain areas, such as mental health or genetic testing. I believe that we can benefit from that kind of expertise.

We can also benefit from the diverse backgrounds ethicists and ethics committees bring to the table. The combination of physicians, nurses, clergy, social workers, hospital administrators, and others on the typical ethics committee can often provide more insight than a less varied group of physicians and hospital administrators.

The complex health care issues we read about—and can expect to encounter—have made clear our need for this broader perspective and the moral guidance biomedical ethicists can offer, but we must remember to use our own good sense as well. MM

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Reflections on the Passing of a Hospital

Health One's recent announcement signals the end of Metropolitan-Mount Sinai Medical Center (M-MSMC) as a medical surgical hospital. This most-merged hospital in a merger-mad health care scene will close its doors to general medical patients sometime in the coming months, ending more than 100 years of service to the Twin Cities community.

The 19th century roots of St. Barnabas and Swedish hospitals, and even the more recent birth of Mount Sinai, seem light-years away in health care years. The changes that have rocked the Twin Cities health care scene in the past 20 years have left no medical institution unscathed. Like others, Metropolitan-Mount Sinai reacted and responded. I have been actively involved in the medical center's affairs for the past 10 years and can testify to the perpetual search for the magic formula that would bring the black ink. The quality was always there—Knapp rehab, strong orthopedics, mental health, ophthalmology, and cardiology coupled with a solid base of general medicine, surgery, radiology, anesthesiology, and pathology. Administrators and doctors came and went, but the core quality persisted.

So what killed Metropolitan-Mount Sinai? No one answer suffices. Demographics (an aging downtown population and suburban growth) and a massive physical plant with declining hospital use certainly contributed. Poor case and payer mix hurt the bottom line. Some cite inept administration or strong competition. But maybe we can most blame M-MSMC's death on one of the strengths of the hospital. M-MSMC was the fusion of Metropolitan Medical Center, itself a melding of the St. Barnabas and Swedish heritages, and Mount Sinai with its Jewish traditions. During the life of Metropolitan-Mount Sinai and its precursor institutions, these heritages were preserved, making the hospital a comfortable place for physicians and patients from diverse backgrounds. M-MSMC attempted to be an ecumenical hospital both religiously and clinically—almost an institutional equivalent of the Renaissance man. But perhaps in so doing it never acquired a character—a tag that could be grabbed by patients, payers, and PR people as unique to Metropolitan-Mount Sinai. I can vividly remember sitting at a table with some of the many consultants brought in over the years and hearing them ask a group of M-MSMC doctors, "What is Metropolitan-Mount Sinai Medical Center? What is your identity?" There were few succinct answers. Heroes in Greek tragedies are foiled by their flaws. In a peculiar twist, Metropolitan-Mount Sinai may have perished from its strengths.

Minnesota Medicine
Patients Go Home for Care

All of us in medicine deal with death daily. We struggle to save our patients but too frequently fail. When a patient's end is inevitable, there comes a certain peace. For those who struggled with Metropolitan Medical Center, Mount Sinai, and finally Metropolitan-Mount Sinai Medical Center, there now is a tranquility knowing there will be no more worries about doctor defections, red bottom lines, or the competition's next move. Those of us who move on will carry a proud heritage with us and fondly remember our hospital.

Charles R. Meyer, M.D.
Consultants Internal Medicine
Minneapolis, Minnesota

State Also Pays for Depo-Provera

The May 1991 issue of *Minnesota Medicine* contains a News Clips item titled, "Medicaid to Pay for Norplant" (page 43). Pursuant to this issue, I'd like to note that Medicaid also pays for medroxyprogesterone acetate, or "Depo-Provera," which is the only long-acting injectable contraceptive used in the United States today.

I surveyed all 50 states, and 32 answered my inquiry. Of those 32, 15 pay for Depo-Provera and 17 do not. However, two of the 17 who said they do *not* pay for Depo-Provera said they *do* pay for contraceptive visits, which may include any kind of contraception the provider wishes to prescribe. So, indirectly, at least two more states pay for Depo-Provera as a birth control method, even though they indicated they do not.

In Minnesota, North Dakota, and South Dakota, Medicaid pays for Depo-Provera injections (150 mg every 90 days) when used for contraception. Before May 1, 1991, only Minnesota required prior approval, a cumbersome and time-consuming process. Prior approval is no longer required in Minnesota.

Although using Depo-Provera for contraception is an unlabeled use of the FDA-approved drug, it is perfectly legal and ethical. In 30 years of prescribing Depo-Provera for contraception, I have never seen a pregnancy when it is correctly given.

PHP and Blue Shield have reimbursed Depo-Provera prescriptions for contraceptive use for years, long antedating the Minnesota Department of Human Services' decision to pay for it. Minnesota's Medicaid (or Medical Assistance) program began paying for Depo-Provera on July 1, 1990.

Mildred S. Hanson, M.D., P.A.
Obstetrics, Gynecology, Family Planning
Minneapolis, Minnesota

A Chronicle of Patients' Stories

I'm writing a book of interviews with people who face serious illness, advancing age, or a terminal diagnosis. I'm seeking people of all ages who are willing to be interviewed in a sensitive and respectful way about their own experiences, concerns, and feelings.

Our society makes death the final taboo, telling the dying not to talk and the living not to listen. I would like to listen. The patients need not be resolved and positive about what's happening to them—it's OK if they're angry, sad, confused. I'm not a therapist, and I'm not a judge. I'm simply interested in recording whatever they're interested in talking about.

How does knowing that health is seriously threatened, or that death is imminent, affect a person's life, relationships, spirituality? What kind of support have people offered that helps? What kind of support is difficult to find? Is it possible to die with dignity, grace, flair, verve, even enthusiasm? Can a terminal or serious diagnosis be the beginning of a personal journey that otherwise might never have begun?

I'm a professional health care writer, have worked in the metro area for 12 years, and have a reputation for being factual and respectful. This book is not an exposé, is not sensational, is not exploitive. It will serve as a reference for chaplains, hospices, support groups, grief groups, families, patients, and all people interested in these deeper issues of life. It can be a most loving legacy to leave for family and friends.

If you have or know of a patient who would be interested in participating in this project, please ask him or her to give me a call at 612/757-9342, or write me. Depending on the patient's circumstances and what's most comfortable, I can come to the patient or we can arrange a place to meet. I'm willing to travel to rural and outstate areas. Interviews run about 60 to 90 minutes, but can be as short or as long as the patient wishes.

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In the Aftermath: Health Care in Kuwait City

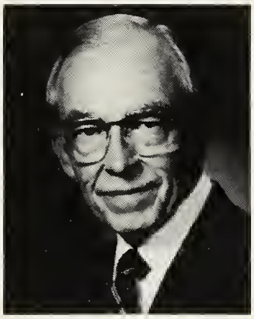
Minnesota Medicine interviews John S. Welch, M.D.

War in the Middle East brought destruction to Kuwait, and the nation's hospitals have suffered. Many parts of the country are without water, electricity, and sanitation, and the hospitals themselves are without many supplies. In addition, the hospitals are short of administrators, physicians, and nurses, many of whom left the country after Iraq invaded. It will undoubtedly take much time to get Kuwait back on its feet, but one Minnesota group has joined the effort.

When Michael O'Sullivan, M.D., director of Mayo Clinic's laboratories, accompanied a planeload of supplies sent to Kuwait City by AmeriCares, a nonprofit organization that sends medical supplies to areas in need, he realized the city's hospitals required more than supplies; they needed direction. Many of the hospitals had extensive damage, and the few physicians left in Kuwait had neither the time to organize restoration nor the expertise to make repairs.

O'Sullivan determined that AmeriCares should send a group to assess Kuwait City's mechanical and medical needs, and Mayo pulled together a group with a wide range of backgrounds and expertise. John Welch, M.D., emeritus professor of surgery, went along to assess the nation's surgical needs. In the following interview, he discusses the adventures and travails the group encountered on its journey to Saudi Arabia and into Kuwait City. He also discusses what the U.S. medical community can do to aid Kuwait and outlines some of the Mayo group's recommendations for rebuilding that nation's health care system, both in the long and short term.

Welch, who retired in 1987 after 31 years with Mayo, was assistant director of the Mayo Graduate School of Medicine for 17 years. After retiring, he served for more than three years as director of surgery services at the Federal Medical Center in Rochester. Although he has long been an avid world traveler, this was his first AmeriCares project.


John S. Welch, M.D.

"The whole country has been stripped of a tremendous amount of equipment and supplies."

Minnesota Medicine: Welcome home from Kuwait City, Dr. Welch. *Minnesota Medicine* is interested in hearing about your experiences in the Middle East. What was the reason for the trip, who sponsored it, and when were you there?

Welch: A nonprofit organization called AmeriCares, based in New Canaan, Connecticut, sponsored the trip. The organization sends medical supplies to areas in need. For example, it recently sent supplies to Peru, which has been experiencing a cholera epidemic.

In early March, AmeriCares sent a planeload of supplies to Kuwait City. Dr. Michael O'Sullivan, director of our laboratories at Mayo, accompanied the delivery. From his observations, he concluded that Mayo should send a group to assess Kuwait City's mechanical and medical needs. AmeriCares' local coordinator, Dr. Doyt Conn (a Mayo rheumatologist) put together a team made up of Kai Rehder, M.D., emeritus professor of anesthesia at Mayo Clinic; Barb Payne, supervisor of the clinic's hemopathology laboratory; John Stears, a unit supervisor in the Department of Radiology; Joel Gray, professor of radiologic physics at Mayo's medical school; and Dick Evjen, a supervisor in anesthesia and respiratory equipment repair. I went along as the surgical representative. We went to Riyadh, Saudi Arabia, and planned to travel to Kuwait City by military air command.

We had short notice about the trip. I received a call from Doyt Conn on March 14, and we left for Washington, D.C., the afternoon of March 17. We were in Kuwait through March 28, and we spent a good deal of time in transit, but I think we had a representative and evaluative experience.

The Road to Kuwait City

Minnesota Medicine: That's certainly short notice to get a group together. Did you have any difficulties?

Welch: We didn't encounter too many medical difficulties. We did, however, experience travel problems—our plane tickets were not for the right days, and we had bureaucratic problems with the military air command. We were unable to take the short flight from Riyadh, Saudi Arabia, to Kuwait City, and we had to rent two cars to make the 250-mile trip.

One particular problem we encountered concerned Barb Payne. She was not accompanied by her husband, and unaccompanied women are not routinely allowed into Saudi Arabia. She was detained at the immigration area of the airport until documents were found to demonstrate she was sponsored or hired by someone to go into Kuwait via Saudi Arabia.

Minnesota Medicine: Can you describe the scene that met your eyes when you arrived in Kuwait City? How large is it?

Welch: Kuwait's population is about 2 million, and most of these people live in Kuwait City, which is enormously spread out with many suburbs. We began to see destruction just before we got to the Kuwaiti border, where the Iraqis had crossed into Saudi Arabia and had captured Khafji. Aside from the Saudi embassy, this town was completely deserted. Once we got past the border—a very complex affair that took many hours—we saw that some of the highway had been destroyed during the Iraqis' retreat. This 30 or 40 miles of the drive was really quite hazardous—one lane with large trucks going both ways, swerving back and forth to avoid ruts in the highway.

As we got into Kuwait and closer to Kuwait City, the sky darkened. It was like twilight, even though it was the middle of the day. We saw camels and sheep loose on the highway and destroyed armored vehicles, civilian vehicles, and trucks that had been pushed off to the side of the road. At one point we saw on the horizon, perhaps five kilometers away, the smokestack of a working power plant. It was the only active power plant we saw. Huge power lines were randomly destroyed—not the towers, but the cables. We were later told that land mines had been laid around the base of some of the towers and that these would have to be cleared before the power lines could be repaired. As we got closer to Kuwait City, the multilaned highways were undamaged, and the driving became much easier. Abandoned trucks, cars, and military armor had been pushed to the side of the road.

When we arrived in Kuwait City in the late afternoon, we went directly to the Al Adan Hospital, where we were to stay. We welcomed a temporary home after four days of traveling.

The State of Kuwait's Health Care System

Minnesota Medicine: What sort of help were you able to give the physicians and other health care workers?

Welch: Our primary goal was to assess Kuwait's medical needs in the short time we had and report back to AmeriCares. We decided to assess these needs as represented by Kuwait City. We brought tools that could be used for repairs, but we did not have spare parts, X-ray tubes, or major repair abilities.

The Al Adan Hospital, which is in the southwestern part of Kuwait City, was one of perhaps 10 hospitals we saw, but the only one that had suffered damage by the Allied Forces. Iraqi troops had taken over the hospital, and we were told gunners had been stationed on top of the hostel where nurses and some other hospital personnel resided. I don't believe the Allied Forces intended to destroy any part of the hospital, but at least one rocket had landed outside the hostel. There was no major structural damage, but windows and doors had been blown out. Tragically, a number of people outside the building were injured in that explosion. One was a plastic surgeon who lost his nose and his left eye. AmeriCares had flown him to the United States for reconstructive surgery. A 2-year-old child of a physician received a shell fragment in the left orbit and might eventually lose the eye. The wife of another surgeon was killed by a fragment. This surgeon, although he was still working, was understandably rather depressed. He lived with his two children within the hospital facility and was the first to greet us. He told us that the hospital's most pressing problem was a large leak in the oxygen system, and this became our first chore. The hospital was out of liquid oxygen and was running only on compressed oxygen that Saudi troops had supplied. The troops were stationed in the area as part of a mobile medical unit and were using Adan Hospital for their medical and surgical needs.

> "A very large number of people have left Kuwait, including technicians, nurses, and physicians."

Minnesota Medicine: What other difficulties did you witness?

Welch: The whole country has been stripped of a tremendous amount of equipment and supplies. There is no good water system. Electricity in some hospitals is nonexistent. The obstetrical hospital had no anesthetic agents whatsoever, no sterile drapes, no oxygen. The Adan Hospital's CT scanner was not working, and we found that the anesthesia machines and the suction were being used in ways meant only for emergency use. Our group showed the anesthesia staff how to use the systems properly, and we hope they changed their ways. The electrical suction apparatus had been neglected. We found that X-ray and laboratory gear had suffered similar neglect.

We all felt that much of our help was futile. We got things working and pointed out changes the Kuwaitis should make, but they probably won't remember how to take care of things properly. If the suction apparatus stops again, they won't have the expertise to fix it.

Minnesota Medicine: It sounds as though they lack adequate technicians to supervise maintenance and repair in the facilities that weren't totally destroyed.

Welch: That's right. A very large number of people have left Kuwait, including technicians, nurses, and physicians. Those people will return sometime, but in the meantime, everything is being run on a bare-bones sort of arrangement.

Many directors, department chairs, and hospital administrators left, and the hospitals will not function adequately until they return. We had the feeling when we were there, which was three weeks after the cease-fire, that the city was waiting for something magical to happen—for people to come back and do repairs, bring in ample water, and fix the electricity. The country lacks functional organization. The week we arrived in Kuwait, all of the ministers, including the minister of health, had resigned. We heard that they were asked to resign because repairs were not progressing fast enough. Later, they were asked to stay on, but the health minister resigned again the day before we left.

Forming Democracy

Minnesota Medicine: Kuwait has been criticized for not moving toward a democratic form of government. Is it realistic for Americans to expect democracy in Kuwait?

Welch: It was difficult to form an educated opinion in the few days we were there. We were very busy visiting hospitals and making emergency repairs. We were left with the impression that Kuwait-born citizens make up an upper class. They are the privileged class. They typically have, for example, higher ranks within the hospital system and make more money than people with more knowledge or skill who are from other countries such as Pakistan, India, or Egypt. A doctor and an engineer independently discussed with me the unfairness and discrimination prevalent in Kuwait.

Personally, I do not foresee democracy in Kuwait. They need to make a day's labor a proud thing; careers in nursing, mechanics, engineering, and equipment repair should be fostered. Because they have enough money, it has been easier for them simply to purchase skilled help. I believe the caste system and "the curse of money," joined with the Arabic ethos, will effectively defeat any real democratic efforts in the foreseeable future.

Re-establishing Kuwait's Medical School

Minnesota Medicine: What about the status of medical education? What were your observations?

Welch: The medical school was closed during the occupation and pillaged of all books and movable equipment. The building has remained closed and is without power or water. The main entry consists of a lovely five-story atrium with balconies. We walked up a few flights to look at some departmental areas. The file cabinets had been pried open, and the files were on the floor. Every laboratory had been ransacked. We went into the library. Some of the racks were still there, but there were no usable books or bound periodicals. The lecture rooms had no podiums or lecterns and no seats for the students. We saw no people in the building, and I don't believe anyone had returned.

Later, I talked to the head of the department of surgery at the Mubarak Hospital, which is adjacent to the medical school. He is a Kuwaiti and a very bright and aggressive young man. Three weeks after the cease-fire he had still not been back to the medical school building; he could not force himself to return. We talked a great deal about the need to re-establish the medical school, and he said he thought as many as 30 students would return for classes. Some students had stayed to work at the Mubarak Hospital.

Mending Kuwait's Health Care System

Minnesota Medicine: When you returned home, your group prepared a report that includes a number of suggestions for improving medical care in Kuwait City. Please summarize your recommendations.

Welch: I had the impression that time was standing still in Kuwait. Our group had interpreted from news reports in the United States that Kuwait City was destroyed; this is not true. In the downtown area, three of the four main hotels suffered fires and were closed. The International Hotel had no water and limited electricity but was open. Entire destruction was not the situation—with one exception: the road from Kuwait City to Basra. This highway, which is called The Valley of Death, was the only escape route left for the Iraqis. Although the bodies had been cleared away, literally thousands of incapacitated vehicles, military as well as civilian, remained on the road to Basra.

Because everything in Kuwait appeared to be at a standstill, we divided our report into three categories: short-term, intermediate-term, and long-term recommendations. In the short term (immediate to one month), we recommended that the water supply be restored together with electricity, sanitation, and communication. Also in the short term, we suggested that the best-equipped hospitals do the major operating procedures and critical care, and that convalescence be done at outlying hospitals. We urged assistance from the U.S. and other military.

Our intermediate-term suggestions (one to six months) generally had to do with expediting the return of nurses, technicians, engineers, and doctors. Kuwait City has enough doctors for urgent matters, but it desperately needs more nurses. One of the best-equipped operating suites had only three operating room nurses. Yet on our return to Riyadh, we saw notices indicating that nurses going to Kuwait for the first time would be delayed several months; some were being turned back.

We concluded that inter-institutional communication must improve. We witnessed very little cooperation in Kuwait; each hospital facility was like its own kingdom. We also recommended the re-establishment of medical school teaching and the eventual creation of other programs to train nurses, and we suggested they set up centralized training for bioengineers and medical engineers. Barb Payne wrote a specific section for medical laboratories, and Joel Gray and John Stears a section for radiology. In the longer term, Kuwait needs people who know how to maintain their own equipment.

These recommendations were delivered to the office of the Kuwaiti minister of health. We all agreed that the report must urge the country to adopt the philosophy that disciplined work at all levels is a proud vocation for Kuwaiti citizens, both of Kuwaiti and foreign extraction—the goal being national self-reliance.

> "I had the impression time was standing still in Kuwait."

Minnesota Medicine: What can we, as a national medical community, do to contribute to Kuwait's rebuilding? And what do believe your group accomplished?

Welch: It did not appear to our group that physicians could offer much professional assistance in the early recovery phase. A cadre of physicians had remained in the hospitals, and those doctors were functioning well, albeit under trying circumstances. They needed the expression of appreciation, and this we gave on many occasions.

In the longer term, Kuwait will benefit from outside help to establish a variety of allied medical career programs at the medical school—programs in degree and non-degree nursing, biomedical and X-ray service engineering, hospital electrical, plumbing, air-handling, and equipment and instrument repair. Expert and long-term instruction in such fields will help Kuwait build national self-reliance. The rebuilding of the medical school, hospital, and departmental libraries will be crucial during the later stages. Finally, physicians who know colleagues in Kuwait could offer support through correspondence, which the Kuwaitis would certainly welcome.

Our group was sent to evaluate medical needs, and we accomplished this through our written report to the Kuwaiti minister of health.

We also gained valuable insights into a culture quite different from ours, and these insights are reflected in our broad understanding of Kuwaiti medicine, which is more European than American.

The trip was the first AmeriCares project for all six Mayo representatives. The easy interaction, thoughtful consensus, and mutual respect within our group made the experience memorable. We made medical and non-medical friends who will long be remembered in our hopes, prayers, and dreams. MM

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Diagnosis: The Achilles' Heel of Biological Psychiatry

Charles E. Dean, M.D.

"Phenomenal progress" will be made in the understanding of mental illness, promised Lewis L. Judd, M.D., in an August 1990 interview with *Minnesota Medicine*.[1] Judd, then director of the National Institute of Mental Health, also painted a remarkably optimistic picture of psychiatric diagnosis and treatment, stating that: A) "We [psychiatrists] can diagnose mental disorders with the same degree of certainty that any physician can diagnose arthritis or diabetes"; B) "We have a highly systematic, reliable, and valid diagnostic process"; and C) "A wide variety of medications have proven to be very effective. ...We are experiencing success rates of up to 80 and 90 percent."

I submit that statements B and C cannot be supported by available evidence, and statement A is a half-truth.

> "There still is no way to independently validate any psychiatric diagnosis."

Psychiatric Diagnosis: Reliable, Systematic, and Valid?

Several studies[2,3] indicate that the reliability of psychiatric diagnoses may be at least equivalent to that found in medicine, and in some areas better.[4] In that sense, statement A is correct. However, it is not correct to state that psychiatric diagnoses can be made with equivalent certainty. Medicine clearly has more tools with which to establish certainty, including laboratory examinations, X-rays, and autopsies.[5]

Most investigators agree that reliability of diagnoses in psychiatry has improved in recent years. With the publication in 1980 of the American Psychiatric Association's Diagnostic and Statistical Manual, Third Edition[6] (DSM-III or D3), psychiatrists for the first time had an official nomenclature that contained sets of criteria specifying the symptoms and behaviors necessary for a given diagnosis. Other sets had been published in 1972[7] and 1975,[8] but DSM-III had more clout as the official diagnostic manual of the American Psychiatric Association (APA). Furthermore, the 494-page volume looked much like a textbook, was 360 pages longer than DSM-II, and had 265 categories—80 more than the DSM-II.

To the public and to many practitioners in the mental health field, this seemed a veritable explosion of diagnostic knowledge. A mere eight years had passed since the Washington University group had found validating evidence for only 14 diagnoses. In 1975, the Research Diagnostic Criteria[8] described 25 categories, albeit with many subdivisions. Although the burgeoning of diagnostic categories was impressive, there was more to come. With the publication in 1987 of the revised version[9] of DSM-III (DSM-III-R or D3R), psychiatry suddenly had some 292 categories!

Given the emphasis on precision found in both D3 and D3R, one would assume that these manuals were developed systematically, with careful attention given to the relevant scientific literature. The introduction to D3 makes it clear that this did not happen: "It should be understood ... that for most of the categories the diagnostic criteria are based on clinical judgment, and have not yet been fully validated by data about such important correlates as clinical course, outcome, family history, and treatment response."[6] Millon,[10] in his exhaustive review of the development of D3, openly admitted that the APA task force "failed to construct an instrument that reflected previous research."

The introduction to D3 states that some categories were excluded due to lack of supporting evidence from validity studies. But since "most" categories lacked such support, why were others, equally lacking in support, included? The answer seems to lie in the task force's commitment to "syndromal inclusiveness," meaning that categories were included if they were used frequently and if clinicians in field trials commented positively. The result should be characterized as diagnostic democracy, not science.

If the category was new, then the task force required that criteria be specific and "relatively distinct" from other disorders. Yet this was inconsistent with D3's insistence that disorders are not discrete entities with sharp boundaries. Furthermore, readers were instructed not to assume that a clear demarcation exists between the presence and the absence of a psychiatric disorder.

If the fundamental approach to the building of D3 was inconsistent, blurred, and paradoxical, how can its contents be characterized as anything but that? Without question, D3 was driven by tradition, political considerations, and acceptability to the largest number of users, then topped by a dash of science. Such a potpourri is considered orderly and systematic only at one's intellectual peril.

continued

Since one of the goals in publishing D3 was to generate better research, one might have expected that its successor would have a substantially improved scientific foundation. Alas, the introduction to D3R[9] restated the exact sentence found in D3: "It should be understood . . . [that] the diagnostic criteria are based on clinical judgment ... and have not yet been fully validated." Yet research into diagnosis had boomed after the publication of D3. Hundreds of investigators examined the reliability, validity, and internal consistency of the categories and criteria, while others questioned the goals, assumptions, and development of the manual. What happened?

Lip service was given to consideration of empirical data in making changes, but "for most proposals, data ... was lacking."[9] Therefore, other considerations (such as clinical experience) were used. The result? Only a minority of changes were based on data. In fact, Zimmerman[11] has stated outright that he "saw firsthand the oftentimes unscientific nature by which changes were made in the diagnostic criteria." In some instances, available data were ignored.

Coryell and Zimmerman,[12] in their study of diagnostic systems, concluded that changes in criteria may simply reflect the committee members' clinical intuition as well as changes in the committee's membership. Frances et al. have admitted that criteria in D3 and D3R "were, by necessity, the result of expert group consensus."[13] I am sorry to report that similar goals and processes have been set for DSM-IV, although it will include more data sets. Nevertheless, the goals of inclusiveness and acceptability may well scuttle its scientific ambitions.

In a major review of this area, Grove et al.[14] noted that present-day emphasis on specific criteria, structured interviews, and rigorous training of raters have combined to increase reliability substantially. Nonetheless, problems remain. First, reliability of many diagnoses, especially personality disorders, is very low.[14] Second, diagnosis rates vary significantly, depending on the system. For example, the diagnosis of schizophrenia[15] can range from 7 percent to 28 percent, and melancholia[16] from 27 percent to 66 percent. Worse, there are no independent means of validating the superiority of any one system. Third, different centers may apply seemingly specific criteria differently.[17] Fourth, and most important, the fact that people agree on a diagnosis (or any other issue) does not mean that the truth has been reached. As Faust and Miner[18] have pointed out, "There is no empirical basis from which to argue that a system on which people agree has greater inherent scientific validity... [as] many great scientific advances were initially rejected by the majority."

It is not quite clear what Judd intended when he spoke of validity in psychiatric diagnosis. If he meant that the diagnostic process is valid, it is not, for the reasons just elaborated. If he meant that the diagnoses carry a high degree of validity, that, too, is wrong.

As we have already seen, even D3 and D3R state that most of the disorders have not been validated by commonly accepted means. Kendell[19] has repeatedly emphasized that increases in reliability have not been accompanied by increases in validity, partly because of the failure to uncover the etiology of any psychiatric disorder.

"The fact that people agree on a diagnosis does not mean that the truth has been reached."

After 20 years of biological research and a number of remarkable technical advances, there still is no way to independently validate any psychiatric diagnosis. Studies involving computerized axial tomography (CT) and positron emission tomography (PET) scans, as well as magnetic resonance imaging (MRI), have shown a variety of abnormalities,[20] but none has been specific enough to aid in validation. Psychiatry is far from being able to study the sensitivity and specificity of clinical diagnosis with the accuracy demonstrated in autopsy studies.[21]

Back to Reality: Success Rates in Psychiatry

Judd's claim that psychiatry is achieving success rates of 80 to 90 percent is exaggerated. This becomes especially clear when examining longer-term naturalistic treatment studies, rather than brief and tightly controlled investigational drug studies. The latter cannot be taken as representative of actual practice, as many patients whom the practitioner must treat are excluded, and the samples are carefully restricted.

As an example of the gloomy results of naturalistic studies, consider the following: In a 19-month follow-up[22] of bipolar manic and unipolar depressed patients treated under ordinary clinical conditions, 26 percent of the manic patients demonstrated good overall functioning, while 34 percent showed very poor outcome. The depressed patients did better, but only 38 percent had a good overall outcome.

In another large sample of patients with mood disorders,[23] it took five years before as many as 77 percent of the chronic group recovered. At that point, 93 percent of the nonchronic group had recovered. However, this more optimistic outcome was dampened by the observation that only one-third of the chronic patients had been well for at least six months.

This work is both discouraging and instructive. It shows that with time, many people can achieve some degree of recovery, but follow-up must be persistent and often long term. Nevertheless, even the best of the medications currently available fall short of being "extremely effective."

Diagnosis and Future Research

The continuing problems with diagnosis threaten the foundation of studies performed with such techniques as PET and MRI. Investigators usually choose a study sample diagnosed according to a particular system.

However, a sample of melancholic patients chosen by D3R criteria may be quite different from those chosen by another system. Further, the criteria in each system may have been chosen arbitrarily. Therefore, whatever the findings with PET or MRI, the meaning of the results for other samples will be in doubt.

The advent of PET, MRI, and genetic-linkage techniques holds great promise, but progress will be slowed unless psychiatry decides to take its own diagnostic research seriously and abandon the effort to please every practitioner and clinician of whatever orientation. Diagnostic democracy may help sell DSM-IV, but it will not help science. MM

Charles Dean is director of inpatient psychiatry at the Minneapolis Veteran's Administration Medical Center and assistant professor of psychiatry at the University of Minnesota, Minneapolis.

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COVER STORY

BIOMEDICAL ETHICS
Confronting Dilemmas of Modern Medicine

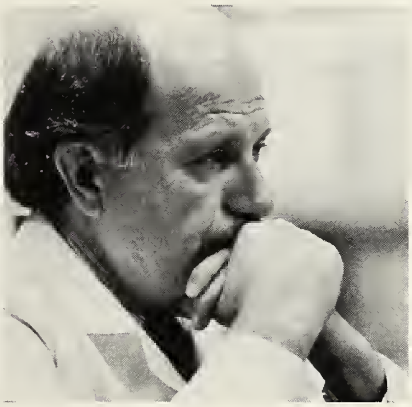
PHOTO BY ROB LEVINE

To Ronald Cranford's adversaries, most notably the "right-to-life" groups, he is known as "Dr. Death" for his role as a biomedical ethicist. To his allies, Cranford is a pioneer in the field.

A neurologist at Hennepin County Medical Center and the chair of the American Academy of Neurology's ethics committee, Cranford gained acclaim and notoriety in the mid-1970s for his work on developing guidelines to determine brain death, and again last year as a consultant to Nancy Cruzan's family in the first right-to-die case to go before the Supreme Court. Now, he is involved in the controversial case of 20-year-old Christine Busalacchi, who suffered brain-damage almost four years ago in an auto accident and has since been kept alive by a feeding tube. Cranford is a consultant to the young woman's father, who wants to move his daughter to Minnesota from the more legally restrictive Missouri so, if doctors here determine it's appropriate, the feeding tube can be removed.

It is one of a number of recent cases that have divided the medical community and pushed medical ethics and its experts into the spotlight.

By David Sussman

While the advent of sophisticated medical technology has made a great many things possible, it has also opened the doors to ethical debates that extend far beyond the classroom and university. The debates are now occurring in our hospitals and in the headlines, where Minnesota's leading biomedical ethicists figure quite prominently. But just what is biomedical ethics, and who are medicine's moral referees?

PHOTO BY ROB LEVINE

Evelyn Van Allen meets with the ethics committee at St. Therese Care Center in New Hope.

Most people, when they hear the term biomedical ethics, immediately conjure up images of a terminally ill patient attached to a respirator while the family and hospital agonize over what to do.

"If you ask not only the lay person but a lot of health care professionals what health care ethics involves, they will say issues relating to life-sustaining treatment. But now we are looking into even more difficult dilemmas," said Evelyn Van Allen, coordinator of the Minnesota Network for Institutional Ethics Committees and an ethics consultant at the Minnesota Hospital Association.

Steven Miles, M.D., the former associate director of the Center for Clinical Medical Ethics in Chicago, said that many groups involved in bioethics do not fit the stereotype. "I think it's interesting what people don't consider biomedical ethics. Planned Parenthood is certainly involved in bioethics, but it is not recognized as such." Medical ethics is a far-reaching field, said Miles, who now practices at Hennepin County Medical Center and teaches bioethics at the University of Minnesota. "There is a real need to democratize the ethics field and recognize how broad the agenda really is."

> "People need to understand that bioethics is going on every minute, every day."
>
> *–Victor Sandler, M.D.*

Medical bioethics is, indeed, a lot of things. It encompasses such wide-ranging issues as health care rationing, HIV testing of patients and health care workers, distribution of limited donor organs, use of fetal tissue in medical research, and physician participation in joint ventures.

It is also relatively young and has yet to be fully defined. In fact, when asked how one defines the application of bioethics or evaluates the success of the science, Van Allen simply said, "You don't at this point."

However, Van Allen said, distinctions can be made. "There are really two schools of [biomedical] ethics. There are the clinical ethicists, like physicians, nurses, and social workers, who have done additional study and are knowledgeable in biomedical ethics; then there are people coming out of moral philosophy or law who then have additional clinical training."

For those involved in the clinical side, interest in biomedical ethics is sparked while working on the front lines of health care delivery. Formal training in the field is then culled from publications, lectures, and seminars. Those with an academic background in biomedical ethics receive their training in ethics first in a formalized setting; clinical experience comes later, after extensive study of the subject.

Despite different approaches, the two schools converge at the clinical level. When the focus is on a particular patient or policy development, both the health care professional and the academically trained ethicist attempt to apply the rules of ethics to medicine. So, while one is most interested in the practical and the other in the theoretical, their approach is much the same.

By definition, ethics is a doctrine dealing with what is good and bad and with moral duty and obligation. It is also a set of moral principles or values. Biomedical ethics is the application of that set of values to medical decision making.

Of course, it would be impossible to practice medicine without a sense of what is morally right and wrong. Every day, doctors call on their own set of moral imperatives, their own guidelines. But with the rapidly changing world of health care, the decision-making process has become much more complex and the issues harder to define.

"Physicians have always been making ethical decisions, but once they made their decisions, they didn't get the degree of public scrutiny they do now. It used to be a matter of 'because the doctor decided it, it was right,' " but not anymore, said Timothy Crimmins, M.D., chair of the Minnesota Medical Association's Committee on Ethics and Medical/Legal Affairs.

Said Van Allen of the roots of medical ethics, "I suppose Hippocrates really started it." However, she added, while Ethics with a capital E dates back to the ancient Greeks, the application of those principles of moral philosophy to health care decision making is relatively recent.

The use of applied bioethics intensified over the last 25 years, as technological advances created such new dilemmas as when should life-support be withdrawn from a terminally ill patient, and when does life really begin and end? When the Karen Ann Quinlan case reached the media in the mid-1970s, biomedical ethics captured widespread attention. Shortly after the Quinlan case in late 1978, Congress established a president's commission to study ethical issues in medicine. Today, as medicine becomes increasingly sophisticated and expensive, those issues are emerging faster than they can be studied.

"Because bioethics is relatively new, the vast majority of doctors and nurses have not been formally educated," said Victor M. Sandler, a gerontologist at Metropolitan-Mount Sinai Medical Center in Minneapolis and chair of the hospital's ethics committee.

> "Because bioethics is relatively new, the vast majority of doctors and nurses have not been formally educated."
> *–Victor Sandler, M.D.*

"Education is the key," said Sandler. "People need to understand that bioethics is going on every minute, every day. The educational thrust should be the emphasis and secondly, identifying and solving problems."

Teaching people about bioethics is a tricky prospect, says Crimmins. "Bioethicists are trying to teach people the methods of making an ethical decision. They are working to develop a set of values and a decision-making process that includes patient autonomy. That's new and it's difficult."

Crimmins' involvement in bioethics resulted from his experiences as an emergency physician at Hennepin County Medical Center, and he describes his bioethics background as on-the-job training.

"The misapplication of aggressive medical care on patients who are terminally ill became my concern. I started to recognize that certain therapies were inappropriate. Patients were being brought back to life only to die a few days later," said Crimmins, who was a driving force behind the development of ethical guidelines for paramedics and emergency physicians in instances of emergency life support (see also "Communicating DNR Orders to Ambulance Personnel," page 33).

In fact, Crimmins' introduction to biomedical ethics is not unusual. Many health care professionals' knowledge of biomedical ethics is gained on the job. For those who want more formalized training, the choices are primarily limited to seminars and short-term courses, such as continuing medical education courses.

For physicians interested in bioethics instruction, Van Allen's network publishes *Ethics News*, a quarterly periodical dedicated to bioethics. Every issue includes a calendar section that lists one- or two-day seminars held in Minnesota and elsewhere. The courses cover everything from ethical issues in human gene therapy to ethics committees at work in the 1990s. While some courses are geared toward physicians, others take a less clinical and more philosophical approach.

For the physician who wants to became a bioethicist, area bioethicists recommend acquiring a master's degree in philosophy, which requires a one- to two-year commitment.

The Center for Biomedical Ethics at the University of Minnesota offers courses to medical students and seminars to health care professionals in biomedical ethics. For medical students, the center offers a master's in philosophy with a minor in biomedical ethics, as well as a number of elective courses in biomedical ethics.

"There is a big grassroots demand from the students," said Dorothy Vawter, a research associate at the University of Minnesota's Center for Biomedical Ethics. However, for physicians truly interested in the subject, Vawter agrees that a master's in philosophy is the best route, although a degree is certainly not needed to take part in a hospital ethics committee, she added.

Although it does not offer a formal degree in the field, the biomedical ethics center works continuously with a number of physicians and researchers in ethics training and is willing to work with professionals interested in designing their own biomedical ethics degree, Vawter said.

PHOTO BY ROB LEVINE

HCMC physicians Timothy Crimmins and Ronald Cranford discuss a patient's care.

Perhaps the best known and oldest ethics course in the country is held every summer at the Kennedy Institute of Ethics at Georgetown University in Washington, D.C. The week-long course designed for physicians, nurses, and health care policymakers is an in-depth study of ethical theory. The course offers students a chance to apply ethical principles to problems in health care and biomedical research, according to the institute. St. Louis University, the University of Virginia, and the University of Washington are also among the schools offering programs in biomedical ethics. While the courses rarely last beyond a few weeks, some schools are beginning to extend their programs. The University of Chicago, another well-known bastion of biomedical ethics, has just started offering a new clinical ethics training program that requires a year-long residency for physicians.

Bridging the gap between the hospital and the university and meeting the demand for exposure to bioethical education is the biomedical ethics consultant or simply bioethicist. As Van Allen pointed out, members of this relatively new breed come from diverse backgrounds—some medical, some legal, and some academic.

Donald Postema, an associate professor of philosophy at Bethel College in St. Paul, is a bioethics consultant to St. Paul-Ramsey Medical Center. According to Postema, who has no formal medical training, the role of a bioethics consultant is to apply the principles of ethics on both a policy and individual case level.

"In my case, I have a background in philosophy, which teaches me to see connections between values and practices," Postema said. As a consultant to the hospital, Postema not only helps develop policies for difficult cases such as organ allocations and do-not-resuscitate orders, he is also responsible for the staff's ethics education.

> "Bioethicists are trying to teach people the methods of making an ethical decision."
>
> *–Timothy Crimmins, M.D.*

Like most bioethicists in the state, Postema's interest in medical ethics began when he was a student studying philosophy. While completing his dissertation at Columbia University, Postema would meet with friends in medical school, and they would discuss such ethical issues as the proper doctor/patient relationship. That interest in bioethics led him to become a member of the Hastings Center located in Briar Cliff Manor, New York, just outside New York City. The Hastings Center is one of the premier ethics think tanks in the country. Today, Postema says interest in biomedical ethics is growing, both in the classroom and the health care facility, but it has a long way to go.

Helping to guide the development of biomedical ethics in the state is the Minnesota Network for Institutional Ethics Committees. The network, formed in 1982, is a group of organizations and health care professionals involved in biomedical ethics. Sponsored by the Minnesota Hospital Association, the network provides information and education on bioethics, helps hospitals and nursing homes start ethics committees, and develops ethics policies and guidelines. It has grown from a handful of interested doctors and others into a group with nearly 750 members.

As a bioethics consultant and coordinator of the network, Van Allen, whose training is in nursing and public health, helps to establish ethics committees and develop policies once the committees are operational.

Despite rapid growth, ethics committees are still largely in their infancy and in the next decade will become a much more powerful and organized force, said Van Allen. In fact, many experts believe it is the existence of ethics committees that will ensure the survival and promulgation of biomedical ethics.

"We don't have any life-and-death issues right now, but we will. We just know bioethics is an integral part of serving today's community," said Marianne Kanning, M.D., medical director of Shakopee's 65-bed St. Francis Regional Medical Center, one of a growing number of hospitals forming ethics committees in the state. At last count, 31 percent of hospitals in the state had ethics committees—a 12 percent increase since 1985. According to Van Allen, 51 of the 164 hospitals in the state have established ethics committees. She said she knew of at least four more hospitals in the process of forming ethics committees.

In the past, the formation of hospital ethics groups has been mostly an urban trend. The larger the hospital, the more likely it will have an ethics committee, experts said.

The typical committee has about 15 members, generally consisting of four to five physicians, three to four nurses, an administrator, a social worker, a chaplain, and a hospital representative such as a patient advocate. The majority of committees have a hospital attorney and a community representative. However, just one-third of the committees in the state have an ethicist. The average meeting time is about two hours a month. Hospital ethics committees typically report to the hospital administrators, medical staff, or, less often, to the trustees.

PHOTO BY ROB LEVINE

Cranford, far center, and other HCMC ethics committee members consult with a patient's family and physicians in a "care conference."

While some ethics committees' costs are underwritten by the hospital, the majority have no budget. There are no studies of costs associated with either the start-up of a committee or its operating expenses.

A hospital is not bound to follow the recommendations of its ethics committee. For the patient and family, the hospital ethics committee is a resource to help solve a complex problem. While families and patients can request the involvement of the committee, more often it is the primary physician or health care worker who will call on the committee for help. The committee then analyzes the issue and makes suggestions, meeting with the patient, the patient's family, or the primary care physician. Sometimes the committee simply provides a much needed second voice for families anguishing over a difficult decision.

Ethics committees' primary functions should be education, policy and guideline development, and consultation, says Hennepin County's Cranford, who believes the majority of hospitals in the country will soon have ethics committees—quite a change since 20 years ago, when such committees simply did not exist.

In 1971, while working in the intensive care unit in neurology at Hennepin County Medical Center, Cranford and a group of doctors formed a group to study issues related to death and dying. "I suppose that was probably the first ethics committee in the country," Cranford said. "When we first started, there weren't any ethics committees. I just became involved in sort of grassroots, on-the-job training."

In response to the emergence of increasingly difficult questions related to prolonging life, Cranford supervised an ad hoc committee on death and dying organized by the Minnesota Medical Association in the mid-1970s. The group developed criteria for treatment of brain-dead patients, making Minnesota one of the first states to establish such guidelines, although the state did not pass brain death legislation until 1989. (See "Minnesota Enacts a Brain Death Law," *Minnesota Medicine*, December 1989, page 717.)

PHOTO BY RYAN VER BERKMOES/AM NEWS

Arthur Caplan at the University of Minnesota, home of the Center for Biomedical Ethics.

Today, Cranford lectures to medical students, law students, and doctors. One way to learn ethics, Cranford said, is to teach it.

While Cranford is Minnesota's king of the hill in clinical bioethics, Arthur Caplan holds court in the academic arena. Caplan is a nationally prominent bioethicist and the first director of the university's Center for Biomedical Ethics. Caplan, whose background is in philosophy, studied and taught at Columbia University in New York and was on the Hastings Center for 10 years before coming to Minnesota.

With its ties to the University of Minnesota, the Center for Biomedical Ethics operates from within a vast health care network, and the state provides an atmosphere ideal for research, Caplan said. "Minnesota has the best infrastructure for doing bioethics of any place in the country. There is a broad spectrum of views from all kinds of professions, and the public is more engaged in issues here than in other states," he said.

> "Minnesota has the best infrastructure for doing bioethcis of any place in the country."
>
> *–Arthur Caplan*

The center tries to reach that community by involving itself with local politics and the state legislature. Through the center, Minnesota is one of the only states in the country to hold hearings on the bioethics of AIDS testing and organ transplants, Caplan said.

"We give lots of talks and lectures around the state, everywhere from Albert Lea to Fergus Falls," said Caplan, who also writes a weekly bioethics column for the *St. Paul Pioneer Press.*

But not all physicians are spreading the same message. Michael Ruesegger, M.D., president of the pro-life Minnesota Physicians United for Human Life, is not happy with the direction bioethics has taken in the state and worries that those involved in biomedical ethics are not defining the issues clearly.

"You hear the catch phrases like 'irreversible condition.' You have to be careful [to distinguish] between what is a terminal and critical illness," said Ruesegger.

While Ruesegger said he has nothing against biomedical ethics, he does oppose any form of euthanasia. "When Cranford uses the term 'futile treatment,' he is misleading people," Ruesegger said. "If the treatment is futile, then keeping a dead person on a breathing machine makes no sense," but opinions differ on the definitions of futile treatment and terminal illness, he said. Some groups, like the Hemlock Society, a group in favor of assisted suicides for terminally ill patients, take advantage of the nebulous definitions, charges Ruesegger, who believes ethics committees should work on defining those terms.

Whatever the task, Cranford believes the hardest work for those involved in biomedical ethics is yet to come. "Right now it's a lot of time and hard work. At first, bioethics were new and dramatic. Now we're getting to that non-sensational, non-dramatic role," he said.

In a more complex world, the role of biomedical ethics will only expand, experts agree. Faced with an awesome array of moral imperatives, many physicians and allied health care professionals are calling for a formalized set of ethical guidelines that can be referred to and relied upon. Developing such a set of ethical standards will be no easy task.

As Crimmins concludes, "In general, you can weigh the scales of what is right and wrong; the problem is translating that into public policy. That's where it gets sticky." MM

David Sussman is a Minneapolis free-lance writer.

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1. Benson RC Jr. Laser photodynamic therapy for bladder cancer. Mayo Clinic Proc 1986;61:859-864.
2. Guttormson NL, Bubrick MP. Mortality from ischemic colitis. Dis Colon & Rectum, to be published.
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Adolescent Occupational Injuries in Minnesota

A Descriptive Study

David L. Parker, M.D., M.P.H., Ross L. Clay, M.D., M.P.H., Jeffery H. Mandel, M.D., M.P.H., Paul Gunderson, Ph.D., and Linda Salkowicz

ABSTRACT

A descriptive study of adolescent work injuries was undertaken using information from Minnesota Department of Labor and Industry workers' compensation files. During the two-year period, 1986-1987, 1,607 work-related injuries were reported in adolescents ages 12 through 17. The largest proportions of injuries occurred in wholesale and retail trade (61.2%), services (24.1%), and manufacturing (5.8%). Injuries most commonly reported were sprains (27.1%), lacerations (26.5%), heat burns (11.4%), and contusions (8.8%). Average annual injury rates were estimated at 14.0/1,000 full-time equivalents for adolescents compared with 24.5/1,000 for adults. The extent of disability or severity of injury could not be determined except that there were no deaths reported during this period.

Approximately 475 traumatic, work-related fatalities were reported in U.S. workers aged 16 and 17 from 1980 through 1985, representing 1% of the 40,000 traumatic work fatalities reported to the National Institute for Occupational Safety and Health (NIOSH) during this time period.[1] Fatal injuries that occur in younger workers add substantially to years of potential life lost.[2] As early as 1918, the Bureau of Labor Statistics linked a lack of worker experience with higher accident rates and suggested that younger age, as well as inexperience, played a role in increasing accidents.[3]

The purpose of this study was to define the scope of adolescent occupational injuries in Minnesota and to identify specific areas for further investigation. Our focus was high-school-age workers who had part-time and/or summer jobs.

Methods

This study utilized Minnesota Department of Labor and Industry First Report of Injury (FRI) records. All Minnesota employers who subscribe to workers' compensation insurance are required by Minnesota law to submit an FRI form to the Minnesota Department of Labor and Industry describing any occupational injury that results in three or more lost work days. Injured workers or their supervisors complete the FRI. Data are coded according to the American National Standards Institute system.[4]

Information requested by the Minnesota Department of Labor and Industry on all FRIs includes (but is not limited to) age, sex, wages, employment status (e.g., part or full time), hours worked per week, lost work time (as of the time the report is filed), type of industry, employee occupation (e.g., professional-technical, sales, food service), nature of injury (e.g., laceration, burn), part of body injured, source of injury (e.g., hand tools, heat, vehicles), and type of accident (e.g., fall, struck by object, bodily reaction). For this study, we analyzed data from 1986 and 1987. A total of 95,044 FRIs were filed and available for study; we analyzed the 1,607 FRIs (1.7%) that involved persons ages 12 through 17.

Adolescent injury rates were estimated using information on employment from the 1986-87 Minnesota Adolescent Health Survey (personal communication with Ross Clay) and 1987 Minnesota teen-age population data. Adolescent health survey data were derived from a 10% sample of school attendees believed to be representative of adolescents in public schools in Minnesota during the 1986-87 school year. The data were used to estimate the number of adolescents employed based on self-reported number of hours worked per week during the school year. After adjusting for seasonal and/or part-time employment, adolescent injury rates were compared with average annual adult occupational injury rates in Minnesota based on employment figures for 1986 and 1987.[6]

Results

When compared with injuries to workers of all ages, lacerations and heat burns constituted a significantly higher percentage for adolescents (26.5% in adolescents versus 10.6% in all workers for lacerations and 11.4% versus 1.8% for heat burns), and sprains comprised a significantly lower percentage (27.1% versus 44.6%) of all injuries (Table 1). Among the 1,607 adolescent injuries, sprains were the most frequently reported injury (27.1%) followed by lacerations (26.5%). Of the 426 lac-

Table 1

Number of occupational injuries by nature of injury, age group, and most frequent industry type and injury source for ages 12 to 17, Minnesota, 1986-1987

Nature of injury	All ages		Ages 12 to 17	
	Number	Percent	Number	Percent
Sprain	42,363	44.6	436	27.1
Laceration	10,069	10.6	426	26.5
Heat burn	1,667	1.8	183	11.4
Contusion	6,378	6.7	141	8.8
Fracture	5,708	6.0	92	5.7
Multiple injuries	3,678	3.9	52	3.2
Chemical burn	691	0.7	28	1.7
Amputation	174	0.2	7	0.4
Other classified	13,150	13.8	88	5.5
Unclassified	11,166	11.7	154	9.6
TOTAL	95,044	100	1,607	100

Table 2

Injuries by Standard Industrial Classification (SIC) group in adolescents (ages 12 to 17) and all ages, Minnesota, 1986-1987

SIC group	All ages		Adolescents	
	Number	Percent	Number	Percent
Wholesale and retail trade	18,914	19.9	983	61.2
Services	17,773	18.7	387	24.1
Manufacturing	28,513	30.0	94	5.8
Agriculture, forestry, and fishing	1,521	1.6	45	2.8
Construction	10,455	11.0	34	2.1
Other and unclassified	17,868	18.8	64	4.0
TOTAL	95,044	100	1,607	100

erations, 83 involved machines; 45 of these were to the fingers and were caused by shears, slitters, or slicers. Of the seven amputations, six involved fingers and one involved multiple upper extremity parts. Seventy-nine back injuries were reported in adolescent health service workers; 67 were sprains or strains.

Table 2 shows the proportion of injuries to workers of all ages and to adolescents by industrial category. Adolescents had a threefold greater risk of injuries than adults in wholesale and retail trades, and a fivefold lower risk in construction and manufacturing.

For occupations in which adolescents commonly worked, Table 3 shows the most frequently reported nature of injury and body part affected. The largest number of adolescent injuries (39.3% of total) occurred in food service workers; 15.9% of injuries occurred in laborers. Except in the food industry, adolescents and adults experienced a similarly high frequency of back injuries, especially in health services.

The distribution of adolescent injuries by age and employment status is presented in Table 4. Part-time employment status was reported for 72.3% of adolescent workers who sustained injuries. A large increase in work injuries was seen for persons 16 years and older compared with those younger than 16.

Based on the Adolescent Health Survey, 41% of adolescents (ages 12 to 17) worked during the 1987 school year. During this same period, 505 injuries were reported to the Department of Labor and Industry. Full-time equivalent injury rates were estimated for two adolescent age categories: 2.0/1,000 full-time equivalents (FTEs) for those ages 12 to 14, and 16.8/1,000 FTEs for those ages 15 to 17. This was compared with an annual average adult injury rate of 24.5 injuries per 1,000 workers (adjusted for full-time work) based on an annual average Minnesota employment of 1,925,000.[6]

Discussion

Few studies of occupational injuries have focused on adolescent workers. Based on 49 events, a one-year incidence study of occupational injuries among 15- to 19-year-olds in a Swedish municipality found an increased incidence of occupational accidents compared with workers over age 19. In the Swedish study, injuries to boys predominated (84%), and adolescent injuries tended to be less severe when compared with injuries to workers of all ages. The most common injuries were lacerations (35%), contusions (27%), and foreign bodies in the eye (18%).[7]

Recently, in a review of Occupational Safety and Health Administration fatality investigations conducted from 1984 to 1987, NIOSH evaluated 104 work-related adolescent deaths. The deaths involved industrial vehicles and equipment (30%), electrocutions (17%), and falls (11%). Forty-one percent of the deaths occurred while individuals were working in violation of the Fair Labor Standards Act of 1938.[8]

In 1980, 23,823 adolescent work injuries were reported to the U.S. Bureau of Labor Statistics (BLS) from 24 states. The more serious injuries, such as fractures, dislocations, and amputations, constituted 5.8%, 0.7%, and 0.6%, respectively, of the total. Generally speaking, the frequency of conditions such as sprains, lacerations, and contusions in Minnesota (Table 1) was similar to that seen in other states.[9]

Table 3

*Number of injuries in Minnesota adolescents (ages 12 to 17), most frequently reported nature of injury, and body part affected for specified occupational categories, Minnesota, 1986-1987**

Occupational category	Number* (Percent)	Most frequent nature of injury (Percent)†	Body part most frequently affected (Percent)†
Food Service	632 (39.3)	cuts††(34) burns (23) strains, sprains (20)	finger (30) hand (12)
Laborers	256 (15.9)	strains, sprains (27) cuts (24)	back (15) finger (14)
Clerical workers	151 (9.4)	cuts (29) strains, sprains (27)	back (19) finger (17)
Health service workers	126 (7.8)	strains, sprains (69) unclassifiable (15)	back (63) multiple parts (6)

*Total number of injuries reported was 1,607; excluded from this table are 349 injuries classified in other categories and 93 for which no industry was reported.
† Only the two leading causes are included, unless a third cause accounts for at least 20% of the total.
††This category includes cuts, lacerations, and puncture wounds.

In a California study, average annual injury rates for 14- to 15-year-olds were reported as 5.3/1,000, and for 16- to 17-year-olds, 19.3/1,000. These results were apparently

Table 4

*Occupational injuries by age and employment status, adolescents (ages 12 to 17), Minnesota, 1986-1987**

Age	Employment status					
	Full Time	Part Time	Seasonal	Volunteer	Unspecified	Totals
12	1	1	0	2	0	4
13	1	0	2	0	3	6
14	3	14	10	1	7	35
15	10	80	13	0	10	113
16	36	410	46	0	46	538
17	101	658	53	1	98	911
TOTAL	152 (9.5%)	1,163 (72.3%)	124 (7.7%)	4 (0.2%)	164 (10.2%)	1,607 (100%)

*Accurate data were not available on the numbers of young men and women who were working.

not adjusted to account for seasonal variation in employment.[10] They appear to follow the trend we found of increasing injury rates with increasing age during the teen-age years. However, a lack of teen-age employment data has been a problem in computing injury rates.[11,12] The BLS Supplementary Data System, which is based on First Report of Injury forms, collects no information on average annual employment, so no denominator data are available for calculating injury rates.[12]

It is likely that differences in exposure account for the difference in percentage of work injuries between adolescent workers and workers of all ages for specific injuries (Table 1) and in specific industries (Table 2). For example, many adolescents are employed in fast-food establishments, accounting for the high portion of food service workers and the high number of burn injuries.

All Minnesota employers are covered by the Minnesota Child Labor Act. Labor laws prohibit employment of minors under the age of 14 except as newspaper carriers (if 11 or older), actors, or in agriculture (age 12 and with a parent's consent). Those under 16 may not work more than 40 hours per week and are prohibited from operating numerous types of power machines.[13] In addition, minors may not work where intoxicating beverages are served, operate industrial machinery, work with hazardous materials, or perform hazardous operations. The importance of observing this law is demonstrated by the increase in injuries in later teen years, as seen in Table 4.

The FRI database has been useful in identifying specific areas that may warrant further investigation. Additional study is needed before intervention strategies are developed. Sprains, lacerations, and heat burns are prominent adolescent occupational injuries for food service workers, laborers, clerical workers, and health service workers. Long-term disability cannot be assessed using available data. Although accurate denominator data are lacking, we were able to estimate incidence and found that when adjusted for part-time employment status, injury rates in adolescent workers appear to be lower than rates for workers of all ages.

Our attempt to assess the magnitude of adolescent work injuries points to several issues of public health importance: 1) the current reporting system is inadequate for determining true morbidity rates. More information is needed on the amount and type of work done by adolescents; 2) child labor laws appear to reduce the the likelihood of adolescent work injury, and violations of these laws may result in more frequent and serious injuries; 3) preliminary results point to the possibility that different types of injuries occur in adolescents than in adults, particularly in the services, manufacturing, and wholesale trade industries. MM

Ross Clay was a resident at the Midwest Center for Occupational Health & Safety, St. Paul-Ramsey Medical Center, St. Paul, Minnesota, and was doing a clerkship at the Minnesota Department of Health when he wrote this article. He is now at the LaSalle Clinic in Neenah, Wisconsin. David Parker, Paul Gunderson, and Linda Salkowicz are at the Minnesota Department of Health. David Parker also works with Jeffery Mandel at Park Nicollet Medical Center.

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Diagnosis of Meniscal and Cruciate Ligament Tears Using MRI

Evaluation of Two Scanning Techniques

David B. Burstein, M.D., Hollis M. Fritts, M.D., and David A. Fischer, M.D.

ABSTRACT

The accurate diagnosis of meniscal and cruciate ligament tears is essential for proper management of knee injuries. In recent years, magnetic resonance imaging has been increasingly used to diagnose knee pathology. Several articles have documented the accuracy of MRI, but conflicting results have been reported. We present a series of 50 consecutive patients who underwent both MRI and complete arthroscopy. We tested two different scanning protocols and found the higher-resolution scanning protocol to be more accurate, resulting in fewer discrepancies between the results of MRI and arthroscopy, which we used as the standard for comparing the MRI interpretations.

Magnetic resonance imaging is an important diagnostic tool in orthopedic practice. It is available, accurate, and well-accepted by patients. However, as demonstrated by the results of this study, the accuracy of MRI is highly dependent upon the scanning protocol used.

The accurate diagnosis of meniscal and cruciate ligament tears is essential to the proper management of knee injuries. Complete diagnosis is often difficult, particularly in the acutely injured patient who has a swollen, painful knee. Typically, additional workup is required and may include arthrography, examination under anesthesia, and/or arthroscopy.

In recent years, magnetic resonance imaging (MRI) has been increasingly used to diagnose knee pathology. Magnetic resonance imaging has several advantages. First, it does not expose the patient to ionizing radiation. Second, the procedure is totally noninvasive, and both sagittal and coronal plane images can be obtained with little manipulation of or discomfort to the patient. Finally, it provides excellent resolution of the knee's soft-tissue structures.

Several reports have appeared in the literature documenting the accuracy of MRI in evaluating knee injuries.[1-6] However, conflicting results have been reported. Jackson et al.[2] studied 86 patients who underwent both MRI and arthroscopy. They reported 96.6% accuracy for the anterior cruciate ligament (ACL), 93.1% for the medial meniscus, and 96.6% for the lateral meniscus. In contrast, Silva and Silver[5] presented a series of 44 patients and reported approximately 44% accuracy in the diagnosis of meniscal tears. These authors concluded that MRI "is not as accurate as it should be in order to be a useful modality."

Magnetic resonance imaging has been used extensively in our practice since 1985. To elucidate the utility of MRI as a diagnostic tool, we conducted a retrospective comparison of two scanning protocols using the results of 50 consecutive patients who underwent both MRI and a complete arthroscopy. The purpose of this study was to compare the diagnostic results of MRI based on the two scanning techniques with those obtained by arthroscopy.

Materials and Methods

The 50 consecutive patients in this study all underwent MRI because of suspected tears of the menisci and/or cruciate ligaments. Thirty-five were male patients. The mean age was 27 years, with a range of nine to 65 years. Twenty-two right knees and 28 left knees were examined. The patients represented a wide spectrum of athletic involvement, from professional football players to non-athletes.

One experienced radiologist (HMF) who knew only the clinical diagnosis read all MRIs. All arthroscopies were performed by one orthopedic surgeon (DAF), who was aware of the MRI results before surgery.

All MRI scans were performed using a General Electric 1.5 tesla scanner and a dedicated extremity coil. The patient's knee was placed in 10 degrees to 20 degrees of external rotation. Two scanning protocols (A and B) were compared to determine which produced the best resolution. The scanning parameters for the two techniques are summarized in Table 1.

We studied the first 27 patients using contiguous 5 mm-thick T1 weighted sagittal and coronal images. A spin-echo sequence with a repetition time (TR) of 600 msec and an echo time (TE) of 20 msec was used. For each image there were two excitations, a 128 by 256 matrix, and a field of view of either 16 or 18 cm (protocol A).

In an effort to improve resolution, we used a higher-resolution protocol for the final 23 patients. We

Table 1

MRI scanning parameters used

	Protocol A (First 27 patients)	**Protocol B** (Final 23 patients)
Thickness	5 mm	3 mm
TR/TE	600/20 msec	600/20 msec, or 2000/20, 70 msec
Matrix	128 x 256	256 x 256
Field of view	16 or 18 cm	14 cm

made 3 mm-thick contiguous images with a 256 by 256 matrix and a 14 cm field of view. Either a spin-echo sequence with a TR of 600 msec and a TE of 20 msec, or a multiecho sequence with a TR of 2,000 msec and a TE of 20 and 70 msec was used (protocol B). The average length of time for a complete scan was 35 minutes.

We graded the menisci using a system described by Stoller et al.[6] and Jackson et al.[2] A grade I meniscus meant little or no signal within the substance of the meniscus. A grade II meniscus showed increased signal (usually linear) that did not extend to the surface of the meniscus. In a grade III meniscus, the increased signal extended to at least one of the meniscal surfaces (Figure 1). A grade I or II meniscus was considered normal, that is, without a tear. A grade III meniscus was considered torn.

We considered the anterior cruciate ligament (ACL) normal if the bulk of the fibers was identified without any area of increased signal within its substance, and if the orientation of the fibers was normal through the intercondylar notch (Figure 2). If either condition was not met, the ligament was considered torn (Figure 3). The posterior cruciate ligament (PCL) was easier to identify on MRI than the anterior cruciate ligament (Figure 4). We considered the PCL torn if there was any area of increased signal within its substance (Figure 5). Often, consecutive images had to be examined to confirm that an area of increased signal was real and not an artifact.

We analyzed the results of the scans by calculating the accuracy, sensitivity, specificity, positive predictive value, and negative predictive value for both menisci and both cruciate ligaments. These parameters are summarized in Table 2. As in previous studies,[4,6] we considered the arthroscopy findings the gold standard against which to compare the MRI interpretations.

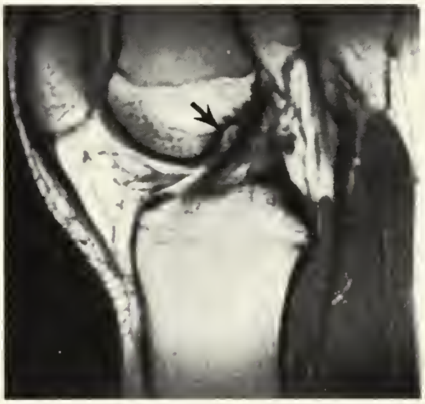

Figure 2—Normal anterior cruciate ligament.

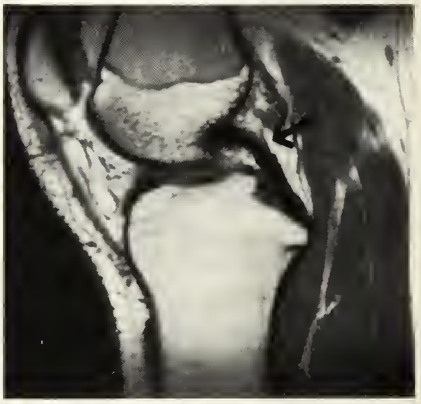

Figure 4—Normal posterior cruciate ligament.

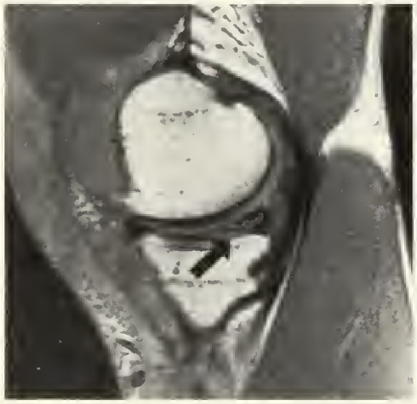

Figure 1—Grade III meniscus. The increased signal extends to the meniscal surface.

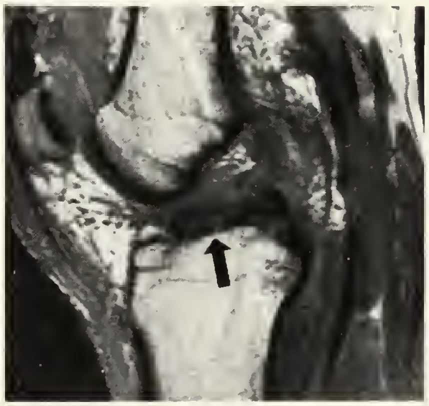

Figure 3—Torn anterior cruciate ligament. The ligament lies in an abnormal position within the notch.

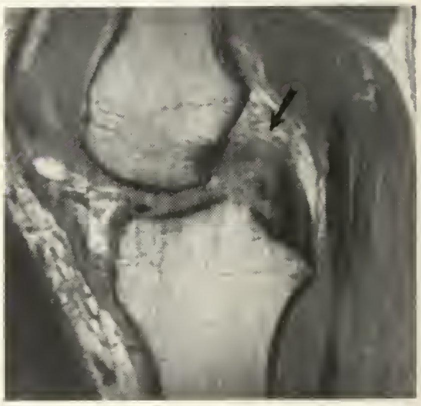

Figure 5—Torn posterior cruciate ligament. Note increased signal within the substance of the ligament.

Table 2

Definition of statistical parameters

	Arthroscopy positive (tear)	Arthroscopy negative (no tear)
MRI positive (tear)	True positive (A)	False positive (B)
MRI negative (no tear)	False negative (C)	True negative (D)

Sensitivity = $\frac{A}{A+C}$ Specificity = $\frac{D}{B+D}$ Accuracy = $\frac{A+D}{A+B+C+D}$ Positive Predictive Value = $\frac{A}{A+B}$

Negative Predictive Value = $\frac{D}{C+D}$

Table 3

Results of scanning protocols A and B (percent)

	Accuracy A/B	Sensitivity A/B	Specificity A/B	PPV* A/B	NPV† A/B
Medial meniscus	85/91	75/100	93/89	90/71	82/100
Lateral meniscus	78/96	40/100	100/95	100/67	74/100
ACL	81/100	64/100	94/100	87/100	79/100
PCL	96/96	100/50	96/100	67/100	100/95

*Positive predictive value.
†Negative predictive value.

Results

Results for both protocol A and B are summarized in Table 3. Scanning protocol B resulted in fewer discrepancies between the results of MRI and arthroscopy. Analysis of MRI interpretation errors revealed that 90% occurred among the first group of 27 patients who underwent protocol A, the initial scanning technique. Only 10% of errors occurred in the final 23 patients who underwent the improved scanning technique, protocol B. The difference in error rate was statistically significant ($p < 0.001$).

Discussion

Magnetic resonance imaging is an excellent and reliable test for diagnosing meniscal and cruciate tears. This test is accessible, accurate, and well-accepted by patients. Our data are comparable to those reported in other series, with accuracies in the range of 91% to 100% for the high-resolution protocol. A low sensitivity was found for lateral meniscal tears when using protocol A. This may be due to statistical artifact because there were more medial meniscal tears (in 17 patients) than lateral meniscal tears (in 12 patients). However, the low sensitivity also may be due to the difficulty of interpreting the signal around the lateral meniscus because of its anatomic attachments.

Review of the cases in which there were discrepancies between the MRI and arthroscopy results indicated a significantly lower error rate in the group of patients who underwent scanning protocol B (the high-resolution protocol). Although a learning curve is present in the interpretation of any new test, our radiologist (HMF) was skilled in reading MRIs before this study was initiated, so it seems unlikely that the improved diagnostic accuracy in the second group of patients was due to his increased experience. We strongly believe that the most important factor was the change made in the scanning protocol.

In our practice, MRI has become an important tool for evaluating knee injuries, especially in patients whose diagnosis is unclear. MRI has replaced the arthrogram in patients with a possible meniscal tear, and for many patients, MRI has eliminated the need for a diagnostic arthroscopy to be performed as a separate procedure. A typical example is the patient with an acute injury who has a hemarthrosis, a positive Lachman sign, and no other instability. Previously, a diagnostic arthroscopy would have been recommended to evaluate the menisci. An appropriate partial meniscectomy would be carried out, but any meniscal repair and/or ACL reconstruction would be performed later, following full discussion with the patient. Now, the status of the menisci can be determined using MRI, and the prognosis and treatment options can be discussed with the patient before any surgical procedures. Consequently, fewer operations are done. As the accuracy and availability of magnetic resonance imaging improves, cost benefits should result. Diagnostic arthroscopic examinations and attendant expenses, namely outpatient surgery, anesthesia, and loss of work time, can be reduced.

Besides tears of the menisci and cruciate ligaments, MRI can demonstrate other knee pathology. In this series of patients, the following diagnoses were confirmed: loose bodies, acute osteochondral fracture, tears of the medial collateral ligament, partial tear of the patellar tendon, and patellar fracture.

Conclusion

As demonstrated by the results of this study, the accuracy of MRI is highly dependent upon the scanning protocol. We believe that the poor results reported in the literature are a reflection of the scan's quality and not a reflection of MRI's potential as a diagnostic instrument. To obtain the best results, the resolution of the scan must be as high as possible. We recommend a 1.5 tesla scanner and an extremity coil. The cuts should be contiguous and as thin as possible, preferably 3 mm. In addition, a 256 by 256 matrix is recommended with as small a field of view as possible (14 or 16 cm). Finally, coronal plane images, which add information and make interpretation more reliable, should be obtained routinely in addition to the sagittal plane images.

Acknowledgment

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David Burstein is an orthopedic surgeon currently in practice in Avon, Connecticut. As the primary author of this article, he completed the study during his post-graduate fellowship in sports medicine at the Braemar Sports Medicine Center.

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Communicating DNR Orders to Ambulance Personnel

Timothy J. Crimmins, M.D.

Few topics in medicine engender as much impassioned debate as the medical care provided during the final stages of illness. The Ethics and Medical/Legal Affairs Committee of the Minnesota Medical Association has struggled with this end-of-life issue, considering the goal of medical treatment to be preserving life and relieving suffering while trying to maintain patient autonomy. As a result of recommendations from the ethics committee, the MMA's House of Delegates in 1990 adopted important guidelines for nursing homes, hospices, and certain individuals for communicating the existence of "do-not-resuscitate" (DNR) orders.

It has become standard medical practice to initiate cardiopulmonary resuscitation and advanced cardiac life support (ACLS) to all persons in cardiac arrest. Meanwhile, there is growing agreement that CPR is not always desirable for patients whose cardiac arrest is the result of an imminently terminal illness. Some individuals may legally and ethically decline cardiopulmonary resuscitation, believing it to be unduly burdensome and minimally beneficial. But problems have arisen because there is no widely accepted method to communicate DNR orders outside an acute care hospital. Within hospitals, DNR or "No CPR" orders have become commonplace, and in 1981, the Minnesota Medical Association adopted guidelines for their use. According to the guidelines, a DNR order means that "in the event of an acute cardiac or respiratory arrest, no cardiopulmonary resuscitative measures will be initiated."

The guidelines discuss the need for appropriate indications for the DNR order and patient or surrogate involvement in the decision-making process. The order should be written in the patient's medical record with documentation provided by the attending physician.[1] DNR orders precede about 70 percent of inpatient deaths, and about 15 percent of hospital inpatients have DNR orders. As many as 50 percent of nursing home residents have DNR orders, and these orders precede nearly 90 percent of nursing home deaths.[2]

> "There is no widely accepted method to communicate DNR orders outside an acute care hospital."

Communicating DNR Orders

Despite the existence of well-defined DNR policies in hospitals and the increasing prevalence of DNR orders in nursing homes, no consistent method has been implemented in Minnesota to communicate the existence and meaning of these orders to ambulance service personnel.[3] It is important to note that residents of long-term care facilities who have DNR orders still have a right to emergency medical services and ambulance transportation for medical problems, including fevers, pneumonias, dehydration, lacerations or fractures suffered from falls, or suffering related to dyspnea or pain.[4] Likewise, individuals in hospice programs or living at home may refuse CPR, yet still require medical transportation services and emergency treatments.

To facilitate the communication of DNR orders, the MMA has published a standard DNR form that will be distributed at the request of the component medical societies for local physicians' use (some county health departments already publish such forms). The MMA recommends that medical society officers meet with local ambulance medical directors and administrators and nursing home representatives to discuss implementation of a community-wide DNR program based on the MMA's guidelines. Ambulance services should adopt standard operating procedures for dealing with DNR orders, including specific instructions to emergency medical technicians, to ensure that the "No CPR" requests are honored.

Completing DNR orders

The attending physician is responsible for obtaining the DNR forms from the medical society, discussing with the patient and/or family the indications for withholding CPR, and explaining the meaning of the DNR order. The attending physician should document this discussion in the medical record and include a description of the indications and rationale for the order. To be valid, the DNR form must include the required signatures. One copy should be kept in the permanent medical record and the original given to the patient or the patient's long-term care facility for its medical records. The physician is responsible for obtaining consent for the DNR order in a manner that conforms with legal, medical, and ethical standards of care. The physician must ensure that proxies signing request forms on the patient's behalf follow the legal and ethical principles of proxy decision making.[5] Patients should be involved to the greatest degree possible in the decision-making process and encouraged to discuss decisions with family members if appropriate.

The patient, family members, supervising health care agency, or long-term care facility should keep the form in a readily accessible location and make its presence known during the provision of emergency medical services or ambulance transportation. The decision to write a DNR (No CPR) order should be reviewed periodically. The patient may revoke the decision at any time.

> "Prehospital personnel will not honor DNR orders that are not legibly or properly signed and dated."

Guidelines for nursing homes

Nursing facilities should develop policies and guidelines for the writing, implementation, and transmission of DNR orders during emergency care. The guidelines should emphasize the importance of annually reviewing the DNR order, which expires 12 months from the date of the earliest signature on the request. They should also outline the procedure for including the order in the patient's medical chart. The use of a standard form should be determined by local protocol with agreement between the nursing facility, community physicians, and the ambulance service. A written order in the medical record may be sufficient (or the standard form may be used) to transmit the DNR order to emergency medical technicians responding to a call from a nursing home.

Guidelines for private homes

Licensed home health care providers supervising patients with DNR orders are also strongly encouraged to develop policies or guidelines for the proper and safe implementation of the directives. For patients in fully supervised medical care programs in private homes, the DNR order becomes effective the day the patient or proxy, physician, and a witness sign the DNR request form. The order must be renewed annually to remain in effect. Home nursing agencies should ensure that the DNR form is readily available and that families understand the procedure to follow if services are needed.

Ambulance personnel

When ambulance personnel arrive at a nursing home, the patient or staff should immediately present the DNR form or the order from the patient's nursing home chart. In the private home, the standard DNR form, signed and dated within the previous 12 months, must be shown to the ambulance providers. In the absence of a written, physician-signed DNR order, ambulance personnel will assume that no valid DNR order exists and will proceed with resuscitation if medically indicated per protocol or if they receive physician or radio medical control orders to do so.[6]

The DNR order should not be followed if ambulance personnel have substantive reason to believe the order is invalid or if the cardiac arrest seems unusual, suspicious, or unnatural. In the event that the patient changes his or her mind about resuscitation prior to cardiac arrest, or if family members request resuscitation or disagree at the time of cardiac arrest, emergency medical service ambulance personnel should resuscitate the patient. The attending physician is responsible for making subsequent treatment decisions.

Prehospital personnel will not honor DNR orders that are not legibly or properly signed and dated or that use alternative wording such as "supportive care." Oral DNR orders by nursing staff or other long-term care facility personnel are not acceptable, nor are phone orders given by family, nursing staff, or physicians.

Physicians present at the scene who are willing to take responsibility for the emergency medical care may verbally give orders to the prehospital personnel to withhold or discontinue resuscitation. Again, it should be emphasized that patients with DNR orders remain appropriate candidates for emergency evaluation, assistance, treatment, and transport. The 911 emergency number may still appropriately be used to summon emergency assistance for such patients suffering medical emergencies.

The medical urgency of cardiac arrest precludes prehospital emergency medical personnel from evaluating the propriety of the decision-making process or administrative procedures used to develop the DNR order. Ambulance personnel will not assume any responsibility for the evaluation or the writing of the DNR order. This responsibility rests with the attending physician and the licensed health care provider supervising the care.

Summary

To summarize, the MMA will provide a standard DNR form and guidelines for implementation in local communities. Local physicians, nursing home administrators, and ambulance service operators need to agree on an established set of guidelines that long-term care facilities, hospices, and private homes will follow to inform ambulance personnel of DNR orders. Ambulance medical directors should instruct ambulance staff on the proper implementation and use of DNR orders.

The decision to write a DNR order rests with the attending physician, based on disclosure and consent of the patient, family, or proxies.

Full implementation of a prehospital DNR system will reduce the suffering that patients and family members endure when inappropriate and unnecessary cardiopulmonary resuscitation is given by ambulance personnel.

A similar program, administered by the county health department, has been successful in the west metropolitan Twin Cities area for the past five years. The model offered by the MMA to individual physicians and their medical societies may be modified to meet local needs. This community emergency medical services DNR program helps ensure the provision of appropriate ambulance service based on patients' individual needs and requests. MM

Timothy Crimmins is an emergency physician at Hennepin County Medical Center in Minneapolis and chair of the Minnesota Medical Association Committee on Ethics and Medical/Legal Affairs.

Physicians should contact their local health departments or county medical societies for copies of the standard DNR form and guidelines for communicating the orders to emergency care personnel.

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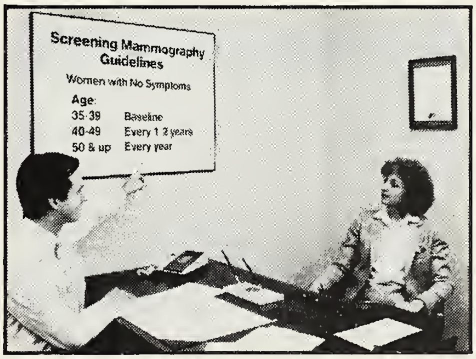

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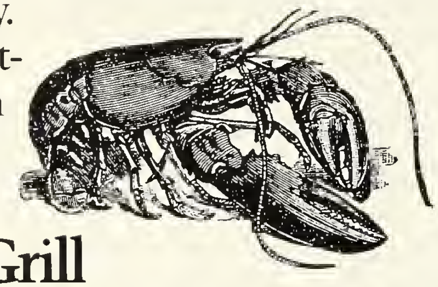

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Futures in Your Future

George Kleinman

As a busy physician, you may feel you lack the time or expertise to compete in the fast-paced world of commodity futures. You've certainly heard all the reasons to stay away. Commodity futures appear to be scary. You've heard of triumphs and big, big profits reaped by some investors, but you've also heard the horror stories of the many who lose.

Should you even consider this high-risk area? Does it make sense to place any money (let alone a portion of your retirement funds) into futures? Could futures as an investment ever make sense, or are they just a crap shoot?

This article covers the basics on commodities and financial futures, including commodity investment do's and don'ts, current areas that possess profit potential far exceeding traditional investments, and why you should consider investing in these areas.

Why Futures Now?

Years ago it was unheard of for anyone to consider futures or commodities in a basic investment program, let alone a retirement plan. But today, many major corporations, including 3M and Exxon, find them a good investment, as do the states of West Virginia and Oregon (each of which last year placed $100 million from their employee pension plans into the futures markets).

Investment volatility has increased, and as the stock market crash vividly illustrates, there can be extraordinary risks in a variety of more traditional investments from stocks to bonds. Many sophisticated investors believe it makes sense to invest a portion of funds in areas that offer potentially higher returns in order to offset lower returns obtained elsewhere. After inflation, the yield from money market funds and T-Bills is miniscule, and fixed-income returns from municipal and government bonds can actually be negative in times of rising interest rates and inflation.

> "More money moves in the currency and commodity markets than in all the world's stock markets combined."

In recent years, the *world* has become the market. One cannot talk about government bonds without asking which government. Japanese and German government bonds, for example, have outperformed U.S. government bonds in recent years. Anyone who believes U.S. bonds are always the safest investment in the world is simply uninformed. Today, money moves internationally. It moves fast, and more of it moves in the currency and commodity markets than in all the world's stock markets combined.

In the '70s, physical assets—everything from silver to soybeans—were the big moneymakers. From 1970 to 1979, the Commodity Research Bureau (CRB) Index of Commodity Prices gained 174 percent, while the Dow Jones average gained only 2 percent. From 1980 to 1989 the Dow Jones Index of Stocks gained 189 percent while the CRB Index of Commodity Prices actually lost 26 percent. What will the '90s bring? It may once again be time to switch, to some extent at least, out of paper assets and into physical assets.

A New Definition of Commodities

It's important to note that commodities are not what they used to be. Commodities do not only include corn, wheat, and pork bellies. Today, almost three-fourths of the action on the world's commodity exchanges invoive financial products, including bond futures and options, foreign currency contracts, and stock market indices. Furthermore, in the last decade we've witnessed a globalization of the world's commodity exchanges. Most markets know no time zones.

A Word About Risk

But you're thinking this is all very risky, right? Actually, a convincing argument could be made that the stock market has become quite risky. Utilities and municipal bonds are certainly less risky, unless you happen to be the unfortunate owner of one that defaults or declares bankruptcy. High-income bonds were once the darlings of many investors who would never consider commodities. Then the bottom fell out, and those investors discovered the high-income bonds were actually junk bonds. There's risk everywhere. But, let's not sidestep the question; commodities can also be risky. Of course, there are strategies to control and manage the risks. However, investments that have the potential for bigger returns on capital are by their very nature riskier than those with lower returns.

Commodity futures and commodity options are risky for two reasons. First, they deal with the unknown. Tremendous profits were made for buyers of crude oil last summer, but not too many knew Saddam Hussein's plans before he invaded Kuwait. That's not to say it's all luck. Supply and demand can be analyzed successfully in normal markets, and certain markets become prime for a big move with limited risk. (For example, our firm made a lot of money in soybeans during the drought of '88. Did we know a drought was coming? Of course not. But we did know that the price of beans was cheap, demand good, and the market was prime for a big move *if* any supply disruption should occur. We assessed the risk to be reasonable. The drought simply turned what would have been a good trade into a terrific one.)

The key is this: Never place all your investments in any one area, particularly one with high risk. However, it may make sense to place a portion of your portfolio in a high-potential area. This portion could compensate for lower returns experienced elsewhere. It must, however, be risk capital—money that you could lose without affecting your lifestyle.

Who Wins and Who Loses?

Commodity trading is a "zero-sum game." This means that for every dollar lost by someone, someone else gains a dollar. You might think about half the traders would win and the other half lose. But in reality, a majority lose. While on any *one* trade there is a winner and a loser, in the broader picture, new losers come in over time to replace the old losers. The winners just keep on trading, reaping a majority of the total profits. So how can you join the elite group of winners?

How Much and With Whom?

If you don't feel you have the time or expertise to trade for yourself, you may want to hire a professional trader to work for you. But first you'll need to determine if you have the temperament to take additional risk with a portion of your savings or pension. Only you can answer this question.

If the answer is yes, the next question is how much? A general recommendation is to place in futures a percentage of your portfolio equal to the annual return you expect to receive on your traditional investments. Assume you plan to receive a 10 percent overall return on your basic portfolio. Then consider placing 10 percent of your investable funds into futures. If you lost it all in any one year, your principal for the year would remain stable. (Good futures managers have been consistently able to return 25 percent, and some much more.) If you have a good year in the futures markets, this 10 percent of your portfolio could very well be your best investment.

> "The objective is to sell now at a higher price and plan to buy back at a lower price sometime in the future."

Another approach is to place 10 percent with a futures manager and tell him or her to stop trading for you if your equity ever falls by half. Thus, your annual risk is equal to one-half your projected return (5 percent in this example). If this occurs, it's time to look for another commodity adviser. To be fair, you should give your adviser this 50 percent leeway—anything less is not enough. Expect equity swings when you're in the futures markets. Even the very best traders experience drawdowns that could be as severe as 25 percent or more in one month. If you start during a good period, your drawdowns will come off profits, and you may never need to tap into your principal. However, be prepared for the reality: principal swings will occur, and they could be sharp. Six months is a fair period to assess a commodity trader. Look for someone new if there is no sign of profit in six months or if your equity approaches half your commitment.

Who Won't Urge Futures

Odds are your accountant, attorney, establishment financial adviser, and stockbroker would never even whisper the word commodities to you. Look at it from their viewpoint. They're aware that the returns could be phenomenal in commodities. But so are the risks. It's a no-win situation for them if they recommend futures and you lose a substantial percentage of your investment. They believe, as professional rule of thumb, that it is better to be safe than sorry when dealing in a leveraged market. In fact, many of these people don't understand leverage and are afraid of it.

How Leverage Works

Leverage is the key to risk and return. In the stock market, an investor who wants to trade in a leveraged manner (stockbrokers call it trading on margin) is required to post 50 percent of a stock's value and must pay interest on the remaining 50 percent—it's considered a loan. In commodity futures, a trader is required to post margin (same word, different meaning), which generally amounts to just 5 or 10 percent of the total value of the underlying asset. Since the investor is trading contracts for future delivery, the remaining 90 to 95 percent is not considered a loan, so no interest is due. Because of this leverage, just a small positive move in the underlying commodity reaps big profits. However, leverage can be a two-edged sword, and a small move in the wrong direction can be equally unrewarding.

An example: One contract of soybeans is standardized at 5,000 bushels. At $6 per bushel, a bean contract has a total value of $30,000 (5,000 bushels times $6), yet a speculator is required to post as margin only $1,500, or 5 percent of the total. For every 1 cent per bushel rise in price, a $50 profit is realized (5,000 bushels times 1 cent = $50). Therefore, if the price rises by just 5 percent, or 30 cents per bushel, the trader is ahead by $1,500, or 100 percent on his margin. However, the margin must be maintained. In other words, if the price of beans falls by 30 cents, the trader's original margin is depleted. The trader can then post an additional $1,500 and hope the market comes back, or sell out and take the loss.

You have probably heard the story of the trader who stayed in too long, and a truck dumped 10,000 bushels of corn on his front lawn (or worse yet, a load of hogs). This is a myth. A professional commodity trader will safeguard against deliveries. Commodity brokers have numerous safeguards to ensure that those taking delivery of a commodity actually want it. (And even if a delivery slips through, it's in the form of a warehouse receipt that states, for example, the oats are stored in a facility in Minneapolis. These receipts are easily sold back into the marketplace.) There is never need to take delivery. The contracts are standardized and most are fulfilled by what is called offset. Offset means if you bought, say, 10 coffee contracts, all you need to do to meet your obligation is sell the contracts back into the market. This offsets your position. You don't need to wait for contract expiration. The difference between the purchase and selling price on the contracts determines your profit or loss on the trade.

Another important feature of commodity trading is the relative ease of going short. Going short is a way to profit on a down market. In futures, it's just as easy to make money in recession or inflation as in boom or deflation. Some stock market players find it un-American to bet on a down market. And there are restrictions against, for example, going short on stocks in pension plans. Additionally, exchange rules state a stock trader can only sell after prices tick up (not in a declining market). The trader is required to pay out dividends and margin interest. In commodities, a trader who feels a market is headed south simply has to sell. The objective is to sell now at a higher price and plan to buy back at a lower price sometime in the future. Markets spend a good portion of time going down as well as up, and a trader who is astute enough to foresee a downturn should be able to capitalize on it.

How to Participate

Commodity-futures mutual funds are available, as are managed trading accounts for individuals. While major brokerage firms offer some good public funds, I recommend considering a private fund or an individual account in your name managed by a trader you trust. (The public funds' up-front and periodic fees, not present in private accounts, could significantly reduce your return. Additionally, with your own account, as opposed to a pooled fund, you'll receive statements on every trade, so you will be better able to monitor your investment.)

> "If there's a place in your portfolio for some additional risk, go where the potential rewards are high."

IRAs are not able to trade futures. However, most self-directed retirement plans do qualify. The firm you're planning to invest with will have to review your plan to see if there are any restrictions.

Money Management Rules

Once you decide you're willing to place a portion of your funds in commodities, you should ask your futures adviser a few questions regarding his or her trading methods. Specific indicators and trading systems are closely guarded secrets, and your adviser probably won't share these with you. However, money management is as important as trade selection in a leveraged market, and all good traders follow certain disciplined money management rules designed to prevent disaster in the down periods and maintain the majority of principal to take advantage of good periods. Here are some basic money management rules any trader should follow:

- Have the will power and the courage to cut losses on the bad trades early and fast to preserve principal and reduce worry. This is the most critical rule for success and the hardest to follow. Successful commodity traders have as many (in some cases more) losers as winners. They come out ahead because they make the losses small. Leverage, the means of achieving big percentage gains, also dictates the need to set a "stop loss" (risk point) on every trade. This is the point where a trader admits he's wrong on that trade and is prepared to exit. It should actually be placed with the broker and not just set mentally. A loss on one trade is never devastating. The trick is to leave the balance of your capital intact so you can live to fight another day. Never risk more than 10 percent of total equity on any one trade. (In the great majority of cases I risk less than 5 percent of equity, and I would only risk 10 percent if the reward potential for that trade was so great it warranted the additional risk.)
- Only take good (high reward-to-risk ratio) trades that have the potential to be terrific trades. If you're willing to risk up to 10 percent, the potential profit should be a multiple of this. For example, if a trade has a total average risk of 5 percent, the average profit potential should be 15 percent per trade. This way, you can lose on even half of the trades and still come out far ahead over time. Every once in a while the risk in a trade will be higher than projected due to unexpected market developments, but if the losses are consistently cut, windfall trades will make a substantial contribution to equity—increases of 50 percent or more in total equity are possible on a single trade.

Futures for Your Future

Futures traders tend to think in terms of days rather than weeks or years; however, in the long run, those with the longer view will reap the greater rewards. While flexibility is important, a trader also needs to have a market opinion. To conclude, I'd like to share a sampling of some of my stronger opinions as we head into the second half of this year:

- Buy silver: Silver prices have fallen to all-time, inflation-adjusted lows as investors have shunned the metal in favor of paper assets in the past decade. As a result, many silver mines have recently been closed down, and production costs are above current market prices. The current low prices lead me to look for investor demand to increase. And because the industry can't efficiently counter even a small demand increase (it takes months to reopen a mine), silver is set up for a price surge.

- Buy deutsche marks: In early 1991 the dollar made the sharpest three-month gain against the German mark in history. This occurred because of the euphoria over our victory in the Middle East and because of troubles in the Soviet Union that more directly affect the Germans. I am watching for this currency relationship to reverse in the second half of the year as traders focus again on the U.S. deficit and the relatively higher interest rates offered on German paper.
- Sell copper: In futures, it is just as easy to make money in a down market. Copper is one of my top two short-sale candidates for the coming months. Significant new copper production facilities are set to open in the latter part of the year, and without any new demand, copper could take a tumble.
- Sell hogs: The hog cycle has been well-documented and quite reliable over the past five decades. Basically, it says high prices lead to increased hog production, which, in turn, leads to lower prices. In mid-1991, historically high prices may lead to a price collapse once the new pig crop hits the market toward the end of the year.
- Buy soybeans: Acreage is down, and world supplies are relatively tight. The soybean market is counting on a perfect crop this season to maintain the current supply/demand balance. We may get it, but if even minor weather problems occur this growing season, soybean prices will surge.

Successful commodity trading involves diversification, good money management, and good advice. If there's a place in your portfolio for some additional risk, go where the potential rewards are high. It could very well be time for you to consider futures. MM

George Kleinman is president of the Minneapolis-based commodity trading firm, Commodity Resource Corporation (800/233-4445). He trades commodities and financial futures professionally on behalf of individual and corporate clients.

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MMA Could Ensure Educational Role for Peer Review

Richard B. Tompkins, M.D.

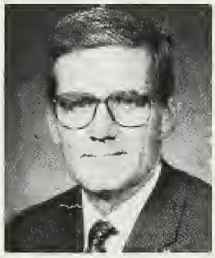
A health care access bill to address the problem of Minnesota's uninsured will almost certainly pass this legislative session and include provisions for data collection, practice parameters, and peer review. Legislators believe these provisions will save the state money in the long run.

The MMA has argued against these plans on the grounds that they would be expensive, time consuming, and complicated. They would also duplicate the Minnesota Clinical Comparison and Assessment Project and other data collection efforts. We have urged legislators to instead spend the state's scarce funds on direct patient care for the uninsured and underinsured. Nevertheless, momentum is building at the state Capitol to begin data collection and peer review January 1, 1992.

Physician review appears inevitable. What is unclear, however, is how it will be done, who will do it, and what its goal will be. It is my belief that review of Minnesota's physicians should be done by peers and that the MMA should lead its development.

Rep. Lee Greenfield, D-Minneapolis, has been working with the MMA to develop an educational rather than a disciplinary approach to peer review. He introduced a bill in the House proposing that a state health care organization collect and analyze data and use the information to develop standards of care. The organization could then educate physicians whose practices fall outside the standard parameters.

In one early draft of the bill, Greenfield proposed naming the MMA as the peer review organization. The MMA seemed a logical choice; with our broad membership, we could recruit physicians from all specialties and areas of the state to serve as reviewers. The MMA Board of Trustees considered Greenfield's suggestion at its April 24 meeting and decided, after much discussion, to decline the offer at this time. Many trustees hesitate to have our professional organization drawn into a role that could prove adversarial, controversial, or contradictory to our role as an advocacy organization.



"We all favor peer review that would help us maintain high standards of care."

I would argue that by serving as the organization responsible for peer review, we could ensure that peer review does *not* become adversarial.

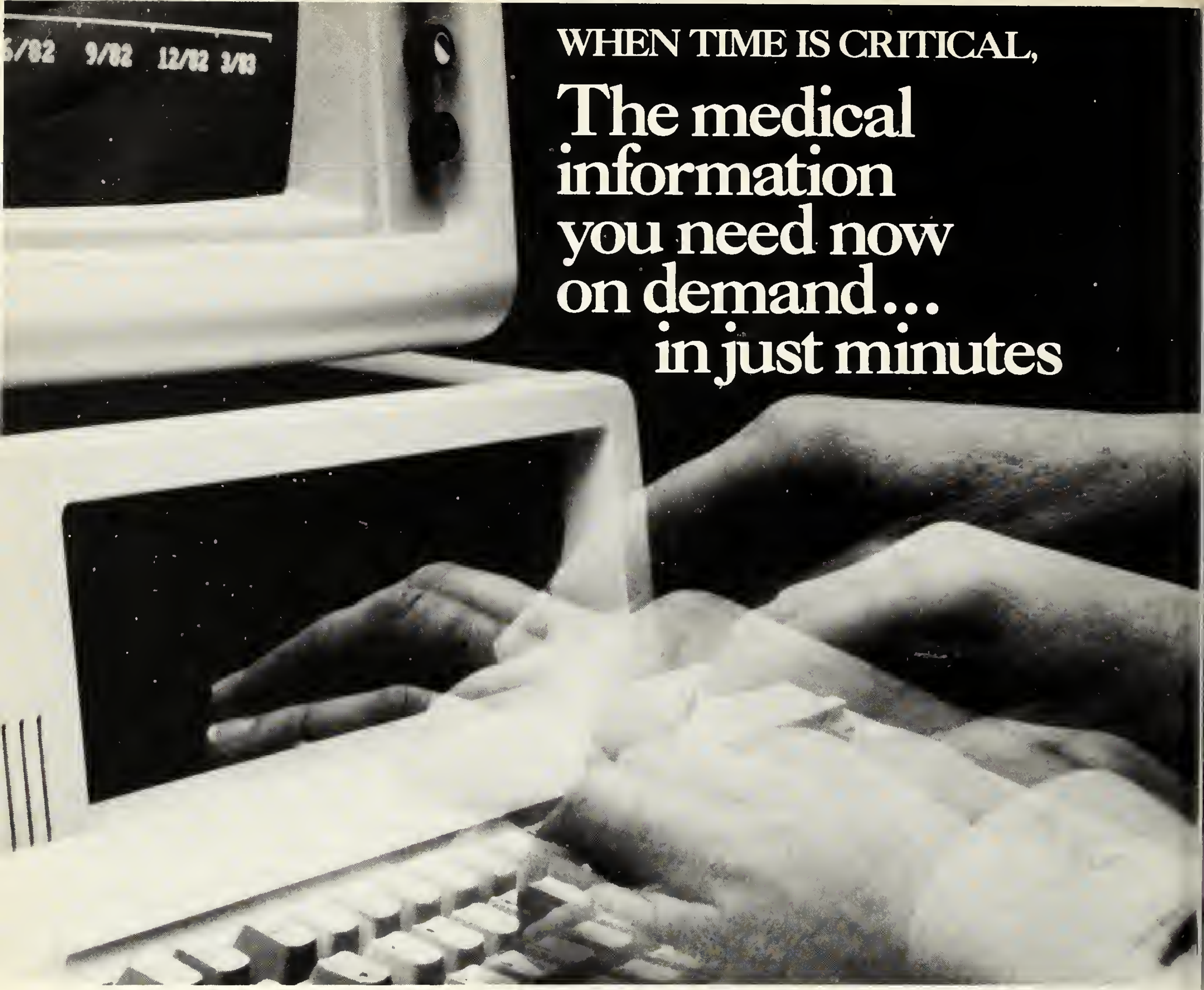
Greenfield's revised bill now calls for "an appropriate physician organization" to perform peer review. Several organizations besides the MMA could take that responsibility: the Minnesota Board of Medical Examiners, the Foundation for Health Care Evaluation, or one of Minnesota's large third-party payers, for example.

Crucial questions remain unanswered regarding the state program. Will the focus of peer review be educational or disciplinary? Will peer review hold down costs at the risk of lowering quality of care? Will too much emphasis be placed on data that may be incomplete or inaccurate?

The answers to these questions will, at least in part, depend on the chosen peer review organization. The peer review panels themselves will determine the review process. The data collection will only point to physicians who may need review; the panel members will decide how much to rely on practice parameters, medical records, consensus panels, or other sources describing a physician's practice. If the state-collected data are flawed, the peer review organization could compensate by considering other information.

The MMA should reconsider its decision to turn down the peer review role; I do not believe this role would tarnish our organization. We all favor peer review that would help us maintain high standards of care and let us compare our practices with those of our colleagues. If the MMA controlled the peer review process, physicians could use their skills and professional judgment to educate one another. Because physicians are very willing to learn and improve their practices, a punitive outcome would be very unlikely. Only physicians who proved uneducable or recalcitrant would be subjected to sanctions.

We have long insisted that only peers are qualified to judge other physicians' practices. Now, Rep. Greenfield and others have made clear their willingness to champion review of physicians by physicians, instead of by bureaucracies, nurses, or for-profit ventures. Surely it is unwise to pass up this opportunity to demonstrate our concerns about quality care and our willingness to use our expertise to better our profession. MM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People and Places Making Medical News

People

New Health Commissioner

Gov. Arne Carlson appointed Marlene Marschall, president and chief executive officer of St. Paul-Ramsey Medical Center, state commissioner of health May 8. Carlson's first health commissioner, John McCally, resigned in March after he was accused of trying to use his position to get a free membership at the St. Paul Athletic Club.

Marschall, who has held several positions at St. Paul-Ramsey since 1969, said she shares Carlson's focus on disease prevention, unwanted pregnancies, and children's health.

MDH Investigator Award

Edward A. Belongia, M.D., a disease investigator at the Minnesota Department of Health, received the 1991 Alexander D. Langmuir Prize, a national award, for his work on eosinophilia-myalgia syndrome (EMS) and the dietary supplement L-tryptophan. Results of the study were published last year in the *New England Journal of Medicine*.

EMS was originally linked in late 1989 with the use of L-tryptophan, a non-prescription product used primarily for sleeping problems. The *New England Journal* article traced the illness to a chemical contaminant found in L-tryptophan from a particular Japanese manufacturer. Belongia was a co-author of the article, along with other investigators from the Minnesota Department of Health, the Mayo Clinic, and the University of Minnesota.

The Epidemic Intelligence Service (EIS), U.S. Centers for Disease Control, awards the Langmuir Prize annually to recognize the work of EIS investigators. Belongia served in the EIS from 1988 to 1990 and was assigned to the Minnesota Department of Health, where he is a medical epidemiologist.

U of M Board of Regents

The Minnesota Legislature elected H. Byran Neel, M.D., a Mayo Clinic surgeon, to the University of Minnesota Board of Regents April 17 to represent the First Congressional District. He succeeds Regent Chairman Charles Casey of West Concord, who is leaving the board after 12 years.

Former state Human Services Commissioner Ann Wynia was also elected to the board.

MAFP Physician of the Year

Edward Kiolbasa, M.D., of Stillwater, has been elected 1991 Minnesota Family Physician of the Year by the board of directors of the Minnesota Academy of Family Physicians. The award was presented on May 2 at the academy's annual meeting.

During his 35-year practice in Stillwater, Kiolbasa has gained a reputation for continuing to make house calls and devoting extra time and attention to nursing home patients.

The academy received 200 letters of nomination and support from Minnesotans for 17 family physicians from around the state. Finalists for the award were Frank Gaertner, Jr., M.D., St. Paul; Gary Good, M.D., Minneapolis; John Myers, M.D., Canby; and Richard Olson, M.D., Chaska.

AATB Board of Governors

Ted Eastlund, M.D., medical director of Transplantation Services at the St. Paul Red Cross, has been elected to a two-year term as vice president of the 11-member board of governors of the American Association of Tissue Banks. The AATB inspects, accredits, and certifies tissue banks and tissue banking personnel nationwide.

Eastlund is also an assistant professor at the Department of Laboratory Medicine and Pathology at the University of Minnesota School of Medicine.

Fairview Management

Three Fairview executives have been named to key management positions at Fairview Hospital and Healthcare Services.

William K. Maxwell has been named executive vice president of integrated network operations. He has been senior vice president of operations since 1987.

Douglas N. Robinson will be senior vice president of suburban hospital operations and outreach. He has been a vice president and Fairview Southdale Hospital administrator since 1983.

Mark M. Enger will become vice president and administrator of Fairview Southdale Hospital in Edina. He has been vice president and administrator of Fairview Ridges Hospital in Burnsville since 1983.

The Fairview board of directors approved the reorganization on April 30.

Abbott's Medical Board

Abbott Northwestern Hospital's newly elected medical board officers include Eugene Ollila, M.D., president; Ronald J. Peterson, M.D., president-elect; Robert A. Ganz, secretary; Ernest W. Lampe, M.D., treasurer. Richard Sturgeon, M.D., is immediate past president.

HealthEast Care V.P.

HealthEast Care, Inc., a partnership between physicians and HealthEast, has appointed Steven N. Burrows executive vice president. Burrows will direct the joint venture services.

Before joining HealthEast Care, Burrows was director of national accounts with HealthCare COMPARE Corp., a national managed care company located near Chicago.

Federation of State Medical Boards

Melvin E. Sigel, M.D., of Minneapolis, president of the Minnesota State Board of Medical Examiners, was chosen president-elect of the Federation of State Medical Boards of the United States at the federation's annual meeting in Seattle on April 27. The federation, based in Fort Worth, Texas, is a national voluntary association of U.S. medical licensing and disciplinary boards.

In addition to being on the staff of Metropolitan-Mount Sinai Medical Center, the Children's Health Center, and Riverside Medical Center, Sigel is also a clinical professor at the University of Minnesota.

Pediatric Research President

Margaret Kendrick Hostetter, M.D., associate professor of pediatrics and microbiology at the University of Minnesota and the Variety Club Children's Hospital, has been elected president of the Society of Pediatric Research. Hostetter, the second woman to hold this position, will take office in 1993. Her election was announced at the society's annual meeting May 2 in New Orleans.

The Society of Pediatric Research is devoted to advancing research in the causes and cures of children's diseases.

Adolescent Medicine President

The Society for Adolescent Medicine elected Robert W. Blum, M.D., M.P.H., Ph.D., to serve as president for the 1991-92 term. Blum is a professor in the Department of Pediatrics and director of the Division of General Pediatrics and Adolescent Health at the University of Minnesota. He also directs the Adolescent Health Training Program that was established in 1978.

The Society for Adolescent Medicine, located in Independence, Missouri, is an international, multidisciplinary organization devoted to the development of comprehensive acute, chronic, and preventive health care delivery to youth and to scientific research regarding adolescents.

FHCE Research Director

The Foundation for Health Care Evaluation recently appointed Stanton Shanedling, Ph.D., M.P.H., director of research. Shanedling came to the foundation from the Health Resources Division of the Minnesota Department of Health. Previously, he served as director of public health programs for the Minnesota Medical Association. He is also an assistant professor of public health at the University of Minnesota.

Places

Metropolitan-Mount Sinai's Closing

Metropolitan-Mount Sinai Medical Center in Minneapolis will end most of its services June 30, completing its days as a medical and surgical hospital. Health One, Metropolitan-Mount Sinai's parent organization, has signed a letter of intent to sell most of the hospital to the Hennepin County Medical Center. Under the negotiations, HCMC would take over the hospital's two main wings this summer. In addition, Health One is negotiating with the Fairview hospital system to provide some of the services Metropolitan-Mount Sinai is phasing out.

Metropolitan-Mount Sinai will continue to offer mental health and chemical dependency services, possibly as a joint effort with Abbott Northwestern Hospital. It will also continue to run its Phillips Eye Institute.

The hospital's closing will affect about 1,200 of Metropolitan-Mount Sinai's 1,300 employees. Hospital officials still hope to place many employees in other area hospitals.

UMHC Receives High Score

The Joint Commission on Accreditation of Healthcare Organizations recently commended the University of Minnesota Hospital and Clinic for its outstanding performance reflected in its accreditation survey score. UMHC received a total score of 90 or above (out of 100 possible), which places it among the most effective accredited organizations. The key performance areas that the Joint Commission evaluates are the organization's effectiveness in reviewing patient care and establishing sound internal processes to support the provision of quality care.

ADA Recognizes Mayo Program

The American Diabetes Association has awarded Mayo Medical Center's diabetes patient education program continued recognition for the quality of its program.

Mayo's program was the first in Minnesota and one of the first in the nation to achieve recognition from the ADA for its patient education program in 1987. The new award gives Mayo recognition status for an additional three years.

The ADA's recognition process is a voluntary effort to assure that a consistent quantity and quality of education is offered to patients with diabetes.

Bethesda Turns Down Wanglie

Bethesda Lutheran Hospital in St. Paul decided against admitting 87-year-old Helga Wanglie, who is at the center of a local right-to-die debate. Wanglie, who suffered irreversible brain damage following cardiac arrest a year ago, is currently hospitalized at the Hennepin County Medical Center and kept alive with a ventilator. HCMC wishes to halt Wanglie's treatment, claiming it is inappropriate and irresponsible medicine, but Wanglie's husband, Oliver, wants the hospital to keep her alive.

Roger Green, a spokesman for Bethesda Hospital, said patients must have potential for improvement to be admitted to the hospital. "We are not a nursing home for patients who are chronically ventilator-dependent," he said.

Shriners' Parents Center

The Shriners Hospital for Crippled Children dedicated on April 16 its new Parent Accommodation Center, a facility similar to the Ronald McDonald House near the University of Minnesota Hospital. The center, which is connected by skyway to the Shriners Hospital, is a free place for parents to stay while their children are treated at the hospital.

The 69 auxiliaries that help support the hospital donated about $1.1 million of the building's almost $2 million cost. The remaining money came from the hospital's construction fund.

Mayo Part of Transplant Network

Mayo Clinic will be one of 14 medical centers included in a new national provider network for bone marrow, heart, kidney, and liver transplants started by John Hancock Financial Services, parent of John Hancock Mutual Life Insurance Co. Hancock chose the centers based on their case volume, reputation, outcomes, and cost.

Hancock will encourage its customers to use these centers, which accept fees 10 to 30 percent below national norms. Other centers in the network include Brigham and Women's Hospital, the University of Chicago Medical Center, and the UCLA Medical Center.

DNA Testing Lab Opens in St. Paul

The Minnesota Bureau of Criminal Apprehension opened the first forensic laboratory in the Midwest with the ability to perform DNA testing. The laboratory contains blood samples from more than 1,000 Minnesota sex offenders, whom authorities say can be identified through DNA testing if they strike again. In the past, DNA testing has been done by private firms and the FBI, but the FBI has a six-month wait—often beyond the time limit for a speedy trial.

Some attorneys have voiced concern about the accuracy of DNA test results, fearing that faulty results might convict an innocent person or free a guilty person.

Socioeconomics

Medicare Patients' Hospital Stays

Medicare patients in Minnesota spend less time in the hospital than those in other states, according to a national survey. Per capita hospital charges for Minnesota Medicare patients were 39 percent below the national average in 1986, hospital admission rates 21 percent below average, and the average length of stay 39 percent below average, according to the Massachusetts Hospital Association study. Nevada and Pennsylvania tied Minnesota's No. 1 ranking.

According to David Lee, a financial analyst with the Minnesota Hospital Association, these numbers accurately reflect admission and cost trends for all Minnesota patients.

Minnesota Hospital Death Rates

All but two of Minnesota's 161 acute-care hospitals received favorable scores in the Health Care Financing Administration's fourth annual study of death rates for Medicare patients. Only Riverside Medical Center in Minneapolis and Falls Memorial Hospital in International Falls had rates higher than computer-projected norms based on each hospital's elderly patient population and offered services. However, the data should not be used alone to predict quality of care, warned the agency.

Administrators at Riverside Medical Center, Falls Memorial Hospital, and many other institutions criticized use of the data, saying it is not a good way to evaluate hospitals. Joan Comstock, Riverside's director of quality management and medical record services, said Riverside has more than an average number of cancer patients and patients over 85, both which contribute to higher death rates.

Philip Stoner, an administrator at Falls Memorial, said Falls has higher than average death rates because it admits dying emergency patients as inpatients. It also admits dying patients from the adjacent nursing home, even if the families have issued do-not-resuscitate orders.

State Health Insurance Poll

Thirty-three percent of Minnesota's adult population would possibly enroll in a state health insurance program, and 54 percent are willing to pay higher taxes to fund such a program, according to an April Twin Cities *Star Tribune*-KSTP-TV poll. The proposed health insurance plan, which is intended for people with inadequate or no health care coverage, would cost an estimated $284 million per year.

Those most interested in enrolling in a state health insurance program were the poorest and least educated of those polled. Those most willing to pay higher taxes to fund the program were the more educated.

Eight percent of those polled said they had no health insurance, which is close to the 6.8 percent figure that the Minnesota Health Care Access Commission estimated last year. Of those who had no health insurance, 77 percent said they would enroll in the state program.

Seventy-six percent said they had adequate health insurance, while 15 percent said they had inadequate insurance and could not afford more.

Law & Policy

Busalacchi Case Going to Court

The Missouri Supreme Court agreed April 15 to hear Pete Busalacchi's petition to move his severely brain-damaged daughter to Minnesota so doctors can evaluate her and possibly remove her feeding tube. Missouri has restrictive right-to-die laws, while Minnesota gives a family more freedom to make decisions.

Illinois: Unethical to Aid Execution

The Illinois State Medical Society has deemed it unethical for physicians to assist in capital punishment, including pronouncing inmates dead. The only role the society supports is, "acting as a source of support and solace to a patient facing death."

Oregon Sets AIDS Policy

The Oregon Medical Association now requires physicians with the AIDS virus to inform the state Health Division so a group of peers can decide if patients are at risk and if the physician's practice should be limited. The Oregon Dental Association has already endorsed a policy calling for dentists with AIDS to either restrict their practice or inform patients of their infection.

Judge Favors Patient Notification

AIDS-infected physicians should either inform their patients or stop performing invasive procedures that pose risk to patients, ruled Superior Court Judge Philip S. Carchman April 25. "The ultimate risk to the patient is so absolute, so devastating, that it is untenable to argue against informed consent," he said.

The ruling regards a discrimination lawsuit against the Medical Center at Princeton by plastic surgeon William Behringer, who lost his surgical privileges after he was diagnosed with AIDS. He charged the hospital with violation of a state law that prohibits discrimination against AIDS-infected people. Behringer died in 1989, but his estate continued the suit.

Carchman determined the hospital had a right to suspend Behringer, but also said the hospital violated Behringer's right to privacy by not keeping his condition confidential.

Drug Use During Pregnancy

A Florida Court of Appeals upheld a woman's conviction for exposing her newborn babies to cocaine through her umbilical cord. Similar cases have previously been brought to court, but this was the first prosecution approved in a state appeals court.

Under a law designed to punish drug dealers for giving drugs to minors, the woman was prosecuted for passing cocaine through her umbilical cord to her babies after they were born but before the cord was clamped.

The 25-year-old woman, Jennifer Clarise Johnson of Orlando, told her pediatrician she used cocaine the day before giving birth to a son on October 3, 1987. During her next pregnancy, she suffered a crack overdose, and when she gave birth January 23, 1989, she told the obstetrician she had used cocaine that morning. She was sentenced to 14 years' probation and mandatory participation in a drug treatment program.

The question of whether to treat drug use during pregnancy as a health care or criminal justice problem has become an issue. Prosecutors argue that the threat of prosecution will deter pregnant women from using drugs. However, many public health officials argue that the threat of prosecution may scare women away from seeking needed medical attention.

Supreme Court Backs NLRB Rule

The Supreme Court upheld a National Labor Relations Board rule that requires private, acute care hospitals to have eight separate bargaining units, one each for doctors, nurses, other professionals, technical employees, skilled maintenance workers, business office clericals, guards, and all other non-professionals.

Hospitals claim the rule violates the National Labor Relations Board's duty to ensure that hospital workers organize in fewer unions, but on April 23 the court upheld the board's right to institute the rule.

Under the rule, each separate bargaining unit can choose its own union, which could potentially force hospitals to bargain with eight separate unions.

Medical Research

Heredity Linked to Alzheimer's

A team of researchers from St. Paul-Ramsey Medical Center and the University of Minnesota has found evidence linking heredity to Alzheimer's disease, which has become the fourth leading cause of death in the United States. The researchers studied several other possible factors, including head injuries, drug and alcohol abuse, heart disease, stroke, and psychiatric disease. They found that family history was the only statistically common factor.

Thirty-three percent of the 407 Alzheimer's victims studied had a close relative (father, mother, brother, sister, uncle, or aunt) who had also suffered some form of dementia (the researchers didn't know if the dementia was Alzheimer's). Only 22 percent of 133 patients with dementia other than Alzheimer's had a relative with dementia, and only 12 percent of the 50 patients without Alzheimer's had a relative with dementia.

Mario Mendez, M.D., a neurologist at St. Paul-Ramsey and the University of Minnesota and a member of the research group, said heredity is not the only cause of Alzheimer's. He said he suspects heredity may predispose Alzheimer's patients to the dementia, but something else causes it.

William Frey II, a biochemist who collaborated on the study, said research on twins shows this is true. "There is a case of identical twins where one developed Alzheimer's and one didn't, and they had the same genes," he said.

Frey believes toxins and unidentified virus-like agents may lead to Alzheimer's. He said Alzheimer's victims have severe degeneration of the olfactory bulb, which is connected to memory portions of the brain.

Innovations

. . . .

Living/Related Lung Donor

Alyssa Plum, the 9-year-old Coon Rapids girl who became the first in Minnesota and the fourth ever to receive a lung transplant from a living donor, died May 18 shortly after a second transplant at the University of Minnesota Hospital.

Alyssa had been healthy up to April 1, when she developed a cold that was later diagnosed as pneumonia. She was admitted to Riverside Medical Center in failing condition and transferred the next day to Minneapolis Children's Medical Center. Doctors were unable to determine the cause of infection, which destroyed almost all of her lungs' abilities. She was transferred to the University of Minnesota as a lung-transplant candidate.

A national search failed to find a donor lung. Fearing that Alyssa could die any day, physicians spoke to her parents about one of them possibly donating part of a lung. The girl's father, Roger Plum, was determined the best candidate.

In surgery, Edward Humphrey, M.D., removed the upper lobe of the father's right lung, and R. Morton Bolman III, M.D., assisted by Sara Shumway, M.D., removed the girl's right lung and replaced it with the father's. After surgery, Alyssa's condition seemed to improve, but she remained on a respirator and soon developed pneumonia in the transplanted lung.

Her condition rapidly deteriorated. In an effort to save her life, doctors replaced Alyssa's left lung with part of her mother's lung, but she died shortly after the surgery, apparently of heart failure.

Pregnant Woman Gets New Liver

In what may be another first for the University of Minnesota Hospital, a Prior Lake woman in her 20th week of pregnancy received a liver transplant. The 29-year-old woman, Kris Anderson, and her fetus were were doing fine after the surgery April 25.

Doctors worried about the stress of surgery on Anderson and her fetus, but said they had no choice but to operate. William Payne, M.D., who directs the university's liver transplant team, said Anderson would probably have lived only a few days without the surgery. At one point during the transplant, the surgeons worried they had lost the fetus when they couldn't hear its heartbeat, which had been slowed by the anesthetic.

John Najarian, chief of surgery at the university, said there is no previous record of anyone having done a successful liver transplant on a pregnant woman.

Microwaves for Prostate Treatment

Mayo Clinic urologists are among the nation's first to perform a nonsurgical procedure that uses microwave energy to treat benign prostatic hyperplasia (BPH), a noncancerous enlargement of the prostate. The procedure uses the Prostatron, an investigational device being tested at the Mayo Clinic in Rochester and Jacksonville, Florida, and three other medical centers nationwide.

Two of three men in the United States over age 60 suffer from BPH, which can gradually close off the urethra, making it difficult to urinate. One-third of those affected require surgery to correct the problem, according to Michael Blute, M.D., a Mayo Clinic urologist and the study's principal investigator.

The conventional surgery, called transurethral resection of the prostate (TURP), was the sixth most frequently performed surgery in the United Sates in 1989. The surgery costs $10,000 to $12,000, requires a general anesthetic and hospitalization, and can impair sexual activity. The Prostatron procedure costs a fraction of what surgery costs, and patients can leave the hospital the same day and resume normal activity in days rather than weeks. Doctors also anticipate no problems with sexual function from the Prostatron procedure.

An antenna inside a catheter is inserted into the prostate during the Prostatron procedure. The antenna delivers a dose of microwave energy that heats cells deep in the prostate. Over a period of weeks, the heated cells dissolve and are absorbed by healthy prostate tissue. As the prostate shrinks, pressure on the urethra is relieved and normal urinary function is restored.

A self-contained system flushes coolant around the tip and sides of the antenna during the procedure. The coolant remains inside the system and cools sensitive tissue next to the antenna. **MM**

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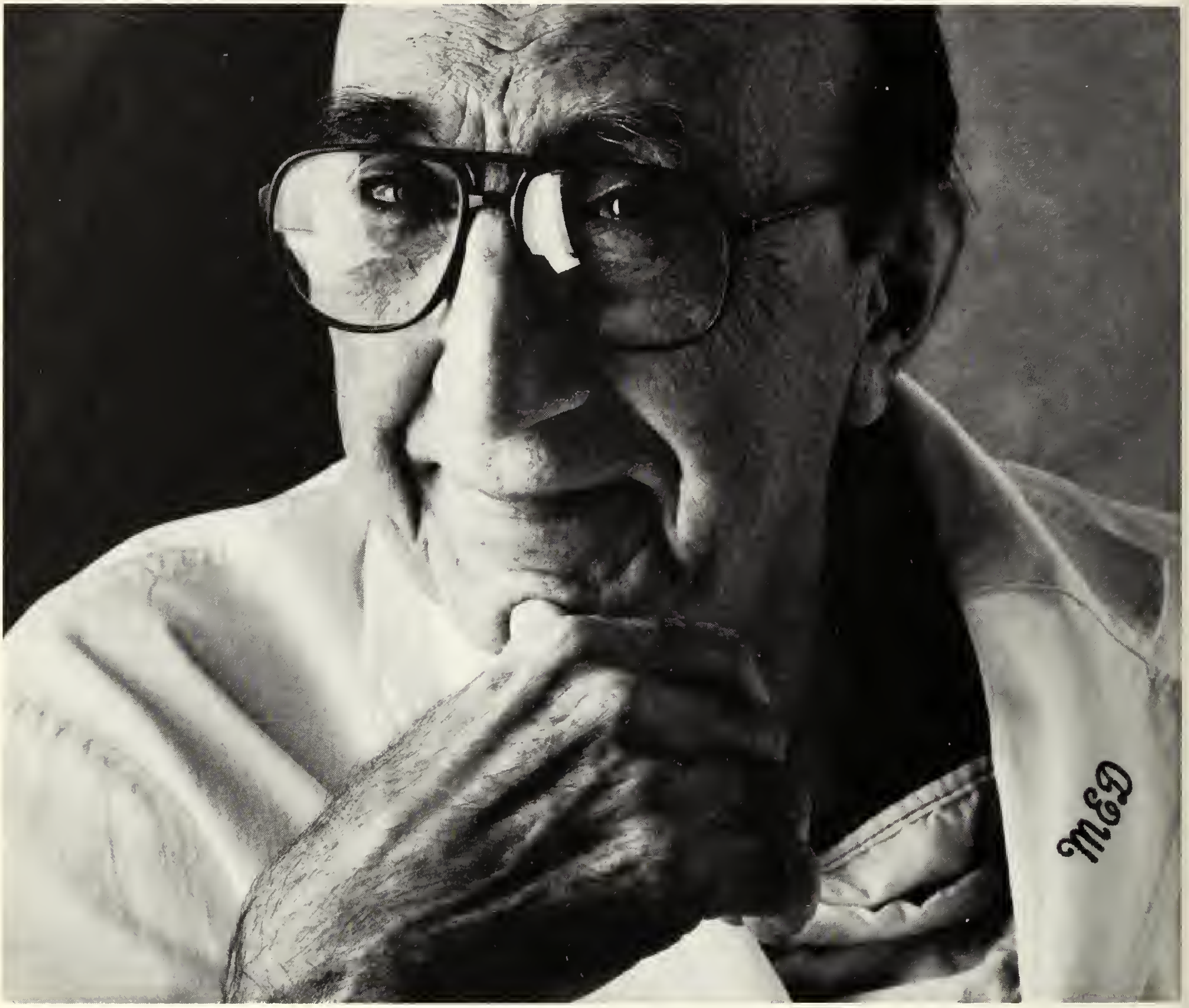

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American Medical Association

A Calendar of Continuing Medical Education Courses

Provided through the MMA Medical Education Subcommittee on CME Resources. For assistance with scheduling meetings or for information on future medical meetings and CME courses at the state and national level, please contact the MMA office: 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414; 612/378-1875. Information for each entry is arranged by date; name of program; primary sponsor; location; contact person.

JUNE 1991

June 7-8 **Lasers in Gynecology: An Advanced Seminar** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, CME Office 14202, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

June 10-14 **Team Management of Diabetes Mellitus** International Diabetes Center; International Diabetes Center, Minneapolis, MN. CONTACT: Cindy Poppitz, International Diabetes Center, 5000 West 39th Street, Minneapolis, MN 55416; 612/927-3393.

June 12-14 **Topics & Advances in Pediatrics** Office of CME, University of Minnesota; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, MN 55455; 612/626-7600.

June 14 **Crisis Intervention: What Difference Does it Make?** HCMC and Hennepin Faculty Associates; Hennepin County Medical Center, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

June 15 **Primary Care Physician, Ophthalmology Update** Phillips Eye Institute Center for Teaching & Research; Phillips Eye Institute, Minneapolis, MN. CONTACT: Mary Strazz, Phillips Eye Institute, 2215 Park Avenue South, Minneapolis, MN 55404; 612/336-5309.

June 18 **33rd Hitchcock Surgical Society Symposium** HCMC and Hennepin Faculty Associates; Hennepin County Medical Center, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

June 19 **Cutaneous Manifestations of Systemic Disease** Mesabi Regional Medical Center; Mesabi Regional Medical Center, Hibbing, MN. CONTACT: Diane Antonovich, Mesabi Regional Medical Center, 750 East 34th Street, Hibbing, MN 55746; 218/262-6927.

June 19-22 **55th Annual Course: Progress in Trauma and Critical Care Surgery** Department of Surgery, University of Minnesota Medical School; Willey Hall, U of M, Minneapolis, MN. CONTACT: Office of CME, University of Minnesota, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, MN 55455; 612/626-7600.

June 20 **Introductory Seminar: Lasers in General Surgery** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

June 21 **Family Practice Conference** The Duluth Clinic; Fitger's Spirit of the North Theatre, Duluth, MN. CONTACT: Barbara Jablonski, Manager, 300 East Third Street, Duluth, MN 55805; 218/725-3816.

June 21-22 **Comprehensive Laparoscopic Seminar: Cholecystectomy, Inguinalhaphy, Herniorrhaphy, Appendectomy, Peptic Ulcer Surgery** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

June 21-22 **Sexual Attitude Reassessment Seminars (SAR)** University of Minnesota; Program in Human Sexuality, Minneapolis, MN. CONTACT: SAR Coordinator, Program in Human Sexuality, 2630 University Avenue SE, Minneapolis, MN 55414; 612/627-4360.

JULY 1991

July 8-12 **Team Management of Diabetes Mellitus** International Diabetes Center; International Diabetes Center, Minneapolis, MN. CONTACT: Cindy Poppitz, International Diabetes Center, 5000 West 39th Street, Minneapolis, MN 55416; 612/927-3393.

July 15 **Penetrating Keratoplasty/Eye Banking** Phillips Eye Institute Center for Teaching & Research; Phillips Eye Institute, Minneapolis, MN. CONTACT: Mary Strazz, Phillips Eye Institute, 2215 Park Avenue South, Minneapolis, MN 55404; 612/336-5309.

July 16 **Management of Depression** Mesabi Regional Medical Center; Mesabi Regional Medical Center, Hibbing, MN. CONTACT: Diane Antonovich, Mesabi Regional Medical Center, 750 East 34th Street, Hibbing, MN 55746; 218/262-6927.

July 20-27 **Ninth Annual Medical Seminar** North Memorial Medical Center, University of Minnesota Department of Family Practice, and St. John's Regional Health Center; Plummer's Great Slave Lake Lodge, NW Territories, Canada. CONTACT: Joseph F. Bocklage, M.D.; 612/588-9478.

July 22-26 **Team Management of Diabetes Mellitus** International Diabetes Center; International Diabetes Center, Minneapolis, MN. CONTACT: Cindy Poppitz, International Diabetes Center, 5000 West 39th Street, Minneapolis, MN 55416; 612/927-3393.

Health One Medical Education

June 13
DIAGNOSIS AND MANAGEMENT OF NECK MASSES
Presented by Merrill Biel, M.D.
12:30 p.m., Sioux Valley Hospital, New Ulm

June 15
FAMILY PRACTICE UPDATE
Presented by Diane Tanabe, M.D.
Phillips Eye Institute Ctr for Teaching/Research
2215 Park Avenue, Minneapolis

July 11
POTPOURRI OF INSTRUCTIVE CASES
Presented by K. Wang, M.D.
12:30 p.m., Sioux Valley Hospital, New Ulm

July 15
PENETRATING KERATOPLASTY
Presented by Richard Lindstrom, M.D.
Phillips Eye Institute Ctr for Teaching/Research
2215 Park Avenue, Minneapolis

August 17
CURRENT CONCEPTS IN GLAUCOMA SURGERY
Presented by Dan Nichols, M.D.
Phillips Eye Institute Ctr for Teaching/Research
2215 Park Avenue, Minneapolis

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AUGUST 1991

Aug. 17 **Current Concepts in Glaucoma Surgery** Phillips Eye Institute Center for Teaching & Research; Phillips Eye Institute, Minneapolis, MN. CONTACT: Mary Strazz, Phillips Eye Institute, 2215 Park Avenue South, Minneapolis, MN 55404; 612/336-5309.

SEPTEMBER 1991

Sept. 4-7 **Annual Orthopaedic and Trauma Seminar** HCMC and Hennepin Faculty Associates; Hennepin County Medical Center, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Sept. 5 **Topics in Pediatric Emergency Medicine** Minneapolis Children's Medical Center; Massie Moos Auditorium Education Building, Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Kathy Ingerson, Minneapolis Children's Medical Center, 2525 Chicago Avenue South, Minneapolis, MN 55404; 612/863-5884.

Sept. 5-7 **Teaching Geriatric Medicine** Office of CME, University of Minnesota Medical School; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Sept. 6 **Annual Clinical Management of Osteoporosis** HCMC and Hennepin Faculty Associates; location to be announced. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Sept. 6-7 **Mayo Surgical Symposium** Mayo Clinic and Mayo Foundation; Mayo Clinic, Rochester, MN. CONTACT: Rita Kunz or Jan Fleck, Mayo Clinic, 200 1st Street SW, Rochester, MN 55905; 507/284-2509 or 800/323-2688.

Sept. 7 **Atherosclerosis: Beyond Cholesterol** Office of CME, University of Minnesota Medical School; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Sept. 7 **Ophthalmic Plastic Surgery Update** Phillips Eye Institute Center for Teaching & Research; Phillips Eye Institute, Minneapolis, MN. CONTACT: Mary Strazz, Phillips Eye Institute, 2215 Park Avenue South, Minneapolis, MN 55404; 612/336-5309.

Sept. 13-15 **Surgical Medical Clinics for Primary Care** Office of CME, University of Minnesota Medical School; Grandview Lodge, Brainerd, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

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Sept. 19-20 **Annual Trauma and Critical Care Conference** HCMC and Hennepin Faculty Associates; Hennepin County Medical Center, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Sept. 19-20 **Practical Pediatrics** Children's Hospital of St. Paul; United Children's Conference Center, St. Paul, MN. CONTACT: Sue Hance, Health One CME, 2810 57th Avenue North, Minneapolis, MN 55430; 612/574-7895 or 800/347-3627.

Sept. 20 **Pain Management Strategies for Primary Care** HCMC and Hennepin Faculty Associates; Hennepin County Medical Center, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Sept. 20-21 **American College of Surgeons Commission on Cancer** Cancer Management Course; Mayo Clinic Facilities, Rochester, MN. CONTACT: Dr. John Donohue or Dr. David Nagorney, Mayo Clinic, Department of Surgery, Rochester, MN 55905; 507/284-2644.

Sept. 20-21 **Nursing Home Medical Directors** Office of CME, University of Minnesota Medical School; Sheraton Midway Hotel, St. Paul, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Sept. 22-24 **International Conference on the Treatment of Sex Offenders** Office of CME, University of Minnesota Medical School; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Sept. 26-27 **Annual Autumn Seminar: Obstetrics and Gynecology** Office of CME, University of Minnesota Medical School; Park Inn, Minneapolis, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Sept. 27 **Annual Contemporary Issues in Dialysis Therapy** HCMC and Hennepin Faculty Associates; Sheraton Midway Hotel, St. Paul, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Sept. 27 **Thrombolytic Therapy in Acute MI** Abbott Northwestern Hospital; Minneapolis Heart Institute, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

Sept. 27-28 **CO_2 Laser: An Introductory Course in Office and Outpatient Procedures** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital,

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Sept. 27-29 **Update in Cardiovascular Diseases** Mayo Clinic and Mayo Foundation; Mayo Clinic, Rochester, MN. CONTACT: Rita Kunz or Jan Fleck, Mayo Clinic, 200 1st Street SW, Rochester, MN 55905; 507/284-2509 or 800/323-2688.

OCTOBER 1991

Oct. 2-4 **Fourth International Symposium on Biliary Stone Therapy** Mayo Clinic and Mayo Foundation; Mayo Clinic, Rochester, MN. CONTACT: Rita Kunz or Jan Fleck, Mayo Clinic, 200 1st Street SW, Rochester, MN 55905; 507/284-2509 or 800/323-2688.

Oct. 3-4 **Annual Forensic Science Seminar** HCMC and Hennepin Faculty Associates; Hennepin County Medical Center, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Oct. 11 **Annual Advances in Geriatric Care** HCMC and Hennepin Faculty Associates; Hennepin County Medical Center, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Oct. 11 **Current Clinical Cardiology & the 10th Annual Jesse E. Edwards Lectureship** St. Paul Heart Clinic/Health One CME; United Children's Conference Center, St. Paul, MN. CONTACT: Sue Hance, Health One CME, 2810 57th Avenue North, Minneapolis, MN 55430; 612/574-7895 or 800/347-3627.

Oct. 14-15 **Advanced Trauma Life Support (ATLS)** Health One; United Children's Conference Center, St. Paul, MN. CONTACT: Sue Hance, Health One CME, 2810 57th Avenue North, Minneapolis, MN 55430; 612/574-7895 or 800/347-3627.

Oct. 18 **Current Topics in Neurology & Psychiatry** HCMC and Hennepin Faculty Associates; Minneapolis Athletic Club, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Oct. 18-19 **Front Line Neurology: Primary Care Management of Patients with Neurological Problems** Abbott Northwestern Hospital; Marriott City Center, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

Oct. 25-26 **Fourth Annual New Ulm Fall Seminar** Sioux Valley Hospital/Health One; Sioux Valley Hospital, New Ulm, MN. CONTACT: Sue Hance, Health One CME, 2810 57th Avenue North, Minneapolis, MN 55430; 612/574-7895 or 800/347-3627.

NOVEMBER 1991

Nov. 1 **Thrombolytic Therapy in Acute MI** Abbott Northwestern Hospital; Minneapolis Heart Institute, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

MMA-Accredited CME Sponsors

❧ The Minnesota Medical Association is the accrediting agency for Minnesota institutions that regularly sponsor CME activities for local physicians. ❧ Accreditation gives CME sponsors responsibility for conducting high-quality CME programs and for designating the amount and category of credit for CME activities. ❧ CME programs must meet the Accreditation Council for Continuing Medical Education's "Essentials for the Accreditation of Sponsors of Continuing Medical Education," which the MMA has adopted. ❧

The MMA's Committee on Accreditation and CME has reviewed the following institutions' CME programs and re-accredited them as CME sponsors for a period of four years:

❧ Itasca Medical Center, Grand Rapids (2/4/91)
❧ St. Olaf Hospital, Austin (3/12/91)

For more information on MMA-accredited CME sponsors, please call Jane Phillip at the MMA, 612/378-1875 or 800/999-1875.

Nov. 1 **Upper Midwest Sleep Society Meeting** HCMC and Hennepin Faculty Associates; St. Paul Hotel, St. Paul, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Nov. 1-2 **Lasers in Gynecology: An Advanced Seminar** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, CME Office 14202, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

Nov. 7-8 **Medical Intensive Care Conference** HCMC and Hennepin Faculty Associates; Hennepin County Medical Center, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Nov. 8 **Pediatric Orthopedics / Rheumatology for the Primary Care Practitioner** Minneapolis Children's Medical Center; Massie Moos Auditorium Education Building, Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Kathy Ingerson, Minneapolis Children's Medical Center, 2525 Chicago Avenue South, Minneapolis, MN 55404; 612/863-5884.

Physician Opportunities and Miscellaneous Listings

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Twenty-nine Physician Multispecialty Clinic located in desirable east-central Wisconsin location is seeking board-certified or board-qualified orthopedic surgeon to round out its services. Lab, X-ray, excellent hospital. Liberal guarantee and benefits. If interested, contact: D.F. Sweet, M.D., Fond du Lac Clinic, S.C., 80 Sheboygan Street, Fond du Lac, WI 54935. (R)

Family Physician/Emergency Room: Full-time salary working weekends, primarily emergency room. Flexibility available. Falls Medical Center, PA, 105 Shorewood Drive, International Falls, MN 56649. Please contact: A. Johnson, M.D., or A. Marc Gorden, M.D., at 218/283-9431 for more information. (R)

Family Physician wanted to join four physicians, one nurse practitioner, FP group practicing in two offices in Pine River and Pequot Lakes. Competitive salary. No ob. No HMOs. Rural area with outdoor recreational opportunities. Rotate call; adequate free time. Call or write: Gary G. Kohls, M.D., Pine and Lakes Clinics, PO Box 88, Pine River, MN 56474; 218/587-4416. (R)

Physician: GP/FP/EM seeks locations to cover on weekends as locum tenens. Board-certified. FP. Lic. Minn. Write: Box 35132, Minneapolis, MN 55436. (R)

Family Physician: Dynamic 14-physician, two-PA, three-office, single-specialty practice in northwest Minneapolis suburbs seeking additional associate, BC/BE; ob available. Competitive salary, full benefits, reasonable call and hospital rounds schedule. Contact: Dr. Diane Shuck, 612/537-8405; or Mark Pottanger, 612/537-8475, Northwest Family Physicians. (*R)

Wausau Medical Center is seeking BC/BE individuals in the following specialties: cardiology, dermatology, family practice, infectious disease, obstetrics/gynecology, pediatrics, and rheumatology. Modern clinic facility located across the street from modern, 300-bed hospital. Full partnership in three years. Easy access to lakes, woods, and mountains. Write (including CV) to: D.K. Aughenbaugh, M.D., Medical Director, Wausau Medical Center, 2727 Plaza Drive, Wausau, WI 55401. (R)

Johnson & Falls Search Associates represents new practice opportunities locally and nationally. Working exclusively in the area of physician search, we are committed to expanding your professional options while meeting our clients' needs. There are no fees to candidates. For a thorough, confidential search, send CV or call: Liz Johnson or Pat Falls, Johnson & Falls Search Associates, 34 Forest Dale Road, Minneapolis, MN 55410; 612/922-0237. (R)

Bemidji, Minnesota: Excellent opportunities for well-trained physicians. We are seeking BC/BE physicians in family practice, ophthalmology, pediatrics, and otolaryngology to join a young 30-physician multispecialty group practice located in northern Minnesota. Competitive salary guarantee plus incentive first year and excellent benefits. An excellent opportunity for a physician to enjoy practice in the center of hunting, fishing, and clear air. Please respond with CV to: C.C. Lowery, Administrator, Bemidji Clinic-MeritCare, 1233 34th Street NW, Bemidji, MN 56601; 218/751-1280. (R)

Outstanding Opportunity for a BC/BE Family Physician to join a progressive medical community with eight physicians oriented to family practice. Details will be given by contacting: Dr. Tim Schmitt, Wadena Medical Center, 218/631-1360, or Jim Lawson, Administrator, Tri-County Hospital, Wadena, MN 56482; 218/631-3510. (R)

Locum Tenens physicians needed. Physicians and locations coordinating services. Write to: Margaret Carse, MED Professional Resource Search, PO Box 35215, Minneapolis, MN 55435. (10/89-R)

Family Practice: Physicians seeking a BC/BE family practice physician for the Norway, Michigan, service area. The physician would have the option of joining one of the existing practices and/or setting up his/her own practice. Anderson Memorial Hospital is a part of Dickinson County Hospitals and has a service-area population of over 45,000. Contact: Dr. Paul Hayes' office, 906/563-9255, or Dr. William Gladstone's home, 906/563-8743. Anderson Memorial Hospital, Main Street, Norway, MI 49870; 906/563-9243. 2-7/91

Internist to join a progressive 13-physician group practice. Rural college town 30 miles from St. Paul, Minnesota, constructing new clinic and hospital. Contact: Robert B. Johnson, M.D., River Falls, WI 54022; 715/425-6701. (*3/91-R)

Urgent Care/Primary Care physicians for over 90 group positions in metropolitan Phoenix/Tucson, Arizona. Excellent compensation/partnership opportunities. Other quality positions nationwide. Send CV or call: Mitch Young (MM), PO Box 1804, Scottsdale, AZ 85252; 602/990-8080. (*1/90-R)

Mankato: FP partner to join four board-certified family physicians, ages 31-41, in fast-growing, full-range practice, includes ob. Population 40,000+. Seventy miles to Twin Cities. Four colleges nearby. Ninety+ physicians on hospital staff. Academic appointment available. Call: Tony Giefer, M.D.; 507/387-8231. (1/90-R)

Family Physicians: Well-established south suburban Minneapolis family practice group seeks associates part/full time to staff day clinic. Excellent call schedule, salary, and fringe benefits. Also seeking locum tenens to staff PT/FT Urgent Care Centers and/or day clinic. Contact: Administration, Family Physicians, P.A., 612/435-4125, or send inquiries to Suite 100, 14050 Nicollet Avenue South, Burnsville, MN 55337. (*9/89-R)

Dermatologist, Psychiatrist, Allergist, Internal Medicine, Family Practice: A progressive, 126-bed, two-hospital system is seeking the above specialties to establish practices in the Iron Mountain area of Michigan's Upper Peninsula. Must be BC/BE. Located 100 miles north of Green Bay, Wisconsin. Dickinson County Hospitals has a medical staff of 45 full-time physicians and a total service-area population of over 45,000. Diagnostic capabilities include a CT scanner, CO_2 laser, and a fully staffed special diagnostic department. Contact: John Schon, Administrator, Dickinson County Hospitals, 400 Woodward Avenue, Iron Mountain, MI 49801; 906/779-4500. *2-6/91

BC/BE Family Practice and Internal Medicine Physician: Excellent opportunity to join well-established, progressive, 20-physician multispecialty group located in an economically sound community of 20,000 (drawing area of 30,000), 65 miles south of the Twin Cities. Full membership after one year. Competitive salary and fringe benefits package. Contact: Ed Durst, M.D., or Terry Tone, Administrator, 134 Southview, Owatonna, MN 55060; 507/451-1120. (2/90-R)

Family Practitioner to join a progressive 13-physician group practice. Rural college town 30 miles from St. Paul, Minnesota, constructing new clinic and hospital. Contact: Robert B. Johnson, M.D., River Falls, WI 54022; 715/425-6701. (*3/90-R)

Phoenix, Arizona: BC/BE family physician needed for established medical group. Practice located in a desirable high-growth area. Excellent compensation and benefits package. Send CV to: Minnesota Medicine (843), 2221 University Avenue SE, Suite 400, Minneapolis, MN 55414. 12-7/91

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Twin Cities

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48-doctor multispecialty group practice in south-central MN with trade area pop. of 150,000. Guaranteed salary 1st year. Incentive thereafter with full range of benefits. Liberal time off.

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PROFESSIONAL ASSOCIATION

The Worthington Medical Center is a 17 member multispecialty group, providing primary and secondary care for a large portion of Southwestern Minnesota and Northwestern Iowa. We are located next to beautiful Lake Okabena, a 640 acre recreational lake inside the city limits. Enjoy two 18-hole golf courses and an excellent school system in this family oriented community.

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Eight weeks vacation and meeting time, standard benefits package, and above average salary leading to shareholder status in the corporation with minimum buy-in.

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Phone: 507-372-2921

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St. Cloud Medical Group, a 22 physician Multi-specialty Group, is now recruiting BC/BE physicians in the following specialities:

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- Pediatrics
- Family Practice

Guaranteed first year salary. Production program thereafter with a full fringe benefit package.

If interested in joining a progressive Medical Group in Central Minnesota, call or send C.V. to:

Daryl G. Mathews
Administrator
St. Cloud Medical Group
1301 W. St. Germain Street
St. Cloud, MN 56301
612-251-8181

Forest Lake Doctor's Clinic is seeking a BC/BE family physician, pediatrician, ob/gyn, and internist to join 10-physician multispecialty group. Located 25 miles north of Minneapolis-St. Paul in progressive community with excellent schools, many beautiful lakes, recreational activities, golf, fishing, boating, skiing. Local hospital directly across street. Contact: Dr. Harvey J. Frank or Dr. Doug Sill, 121 SE 11th Avenue, Forest Lake, MN 55025; 612/464-7100. (4/90-R)

Family Practice, Internal Medicine, Pediatrics, Urology, Obstetrics and Gynecology, Dermatology, and Orthopedics practice opportunities available at the Faribault Clinic. The Faribault Clinic is a multispecialty group practice of 14 physicians. Faribault is located 50 miles south of Minneapolis on I-35. For more information contact: Ray W. Wood, M.D., or Ken Smith, Administrator, 924 NE 1st Street, Faribault, MN 55021; 507/334-3921. (4/90-R)

Family Physician: Tired of call? Want predictable hours? Full-time physician needed to work three days per week in our outpatient family practice clinics. One position open immediately. Salary plus bonus and benefits package including malpractice insurance. Contact: Todd Patton, M.D., or William Wenmark, CEO, c/o NOW Care Medical Centers, 13031 Ridgedale Drive, Minneapolis, MN 55343; 612/593-9010. (5/90-R)

Downtown Office Space for Rent: Physician in the Medical Arts Building, 825, wishes to sublet to another physician on a part-time basis for the purpose of sharing overhead expenses. Call: 612/370-0553. (6/90-R)

Mankato Clinic, Ltd. is seeking BC/BE physicians in the following specialties: dermatology, invasive cardiology, ob/gyn, oncology/hematology, pulmonary medicine, vascular surgery, family practice, pediatrics, and general internal medicine. The Mankato Clinic is a 43-doctor multispecialty group practice in south-central Minnesota with a trade area population of +200,000. Guaranteed salary first year, incentive thereafter with full range of benefits and liberal time off. For more information call: Roger Greenwald, Administrator, or Dr. B.C. McGregor, 507/625-1811, or write: 501 Holly Lane, Mankato, MN 56001. (6/90-R)

Family Practice / North Shore Lake Superior: BC/BE family physician to join busy practice in primary care clinic of four family physicians with consulting internist, ophthalmologist, general surgeon, and orthopedic surgeon. Advantages of living in a small town while being only 22 miles from Duluth metro area. Contact: Lee Cohen or Steve Bjorum, Administrator, Community Health Center, Inc., 4th Street at 11th Avenue, Two Harbors, MN 55616; 218/834-7207. EOE/AA. (8/90-R)

Olmsted Medical Group is currently seeking BC/BE physicians in the following specialties: general surgery, family practice, emergency medicine, pediatrics, and ob/gyn. Excellent opportunity for well-trained physicians to join a 50+ physician multispecialty group in an established, progressive practice. In addition to the recently expanded main office in Rochester, Minnesota, the group operates eight branch offices in southeastern Minnesota. Affiliate hospital recently underwent complete renovation and expansion. Competitive salary/benefits package includes malpractice insurance, flexible benefits plan, 401(k) and profit sharing, and relocation assistance. Send CV to: Olmsted Medical Group, Attn: Susan Schuett, 210 Ninth Street SE, Rochester, MN 55904. (8/90-R)

Lake City, Minnesota: Family physician BC/BE needed to join three other FPs in progressive, growing practice on Lake Pepin/Mississippi River in southeastern Minnesota. Excellent first-year salary/benefits in a scenic community with multiple recreational opportunities. Contact: D.D. Pflaum, M.D., 303 South Washington, Lake City, MN; 612/345-3318. (8/90-R)

MDsearch assists medical groups and hospitals in their recruiting efforts. For confidential information on opportunities in the Upper Midwest, send CV and/or call collect: Mary Jo Cordes, MDsearch, PO Box 21507, St. Paul, MN 55121; 612/454-7291. 12-8/91

Family Practice—Hospital-sponsored Clinic Opportunity: Dynamic, growth-oriented hospital in beautiful north-central Wisconsin is seeking family physicians to join a growing practice in a new facility. The administrative burdens of medical practice will be minimized in this hospital-managed clinic. The hospital has committed to an income and benefits package that is significantly higher than similar opportunities. Package includes base income, incentive bonus, malpractice, disability, signing bonus, and student loan reduction/forgiveness program. All relocation costs will be borne by the hospital. Please contact: Kari Wangsness, Associate, The Chancellor Group, Inc., France Place, Suite 920, 3601 Minnesota Drive, Bloomington, MN 55435; 612/835-5123. (12/90-R)

Midwest: Dakota Medical Center is looking for a fifth ED physician. BC/BE in emergency medicine preferred, but primary care boards with ED experience acceptable. We are a large multispecialty group of 150+ members with all major subspecialties represented. Stockholdership in clinic after two years. Excellent benefits package. Extremely flexible hours in ED (up to 1,760/year), with option to work more in outpatient clinics if desired. Starting salary is >$60/hour. We have experienced a 20 percent increase in patient volume in the past two years, now seeing 18,000/year. Contact: Dakota Clinic, Ltd., Recruiting Division, 1702 South University Drive, Fargo, ND 58103; 701/280-8520. *6-7/91

Family Physician BC/BE: Immediate opportunity to join family practice clinic in Minneapolis. Practice will allow part-time or full-time schedule. Competitive salary and benefits. Interested candidates send CV to: Jean Burns, 10501 Wayzata Blvd., Minnetonka, MN 55343; 612/544-2605. (3/91-R)

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Call Collect/Write: Administrator Curtis J. Nielsen, (218) 828-7100 or (218) 829-4901, P.O. Box 524, Brainerd, MN 56401.

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- Crosby, MN
- Dassel, MN
- Eden Prairie, MN
- Estherville, IA
- Grantsburg, WI
- Hopkins, MN
- Hutchinson, MN
- Litchfield, MN
- Minneapolis, MN
- Montgomery, MN
- Monticello, MN
- Mound, MN
- St. James, MN
- Springfield, MN

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Please contact Jerry Hess at (612) 863-4193-days, (612) 483-6204-evenings and weekends.

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Minneapolis, MN 55407

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Health Service on a 2,000-student, liberal arts campus, plus solid clinic practice with group of eight physicians, ob optional. One hundred miles south of Fargo, or 150 miles west of Minneapolis/St. Paul. Contact: Mike Busian, M.D., or Mike Flicker, Administrator, Morris Medical Center, 23 Montana Avenue, Morris, MN 56267; 612/589-3232. 6-8/91

Wisconsin: 120-physician multispecialty clinic in the Fox River Valley of northeastern Wisconsin desires two BC/BE pediatricians to join department of 15 BC/BE pediatricians. Excellent compensation and benefits package, leading to shareholder status after two years. The community offers a superb recreational, cultural, and family environment in which to practice. For information please call or write: Howard Kidd, M.D., La Salle Clinic, 411 Lincoln Street, Neenah, WI 54956; 414/727-4276. (3/91-R)

Burdick Treadmill and EKG for lease/rent and used medical equipment and supplies for sale. Excellent condition. Call 218/828-1358. 6-8/91

Family Physician wanted to join three board-certified M.D.s in well-established, expanding group practice. Weekend ER coverage. No buy-in. Financial package hard to beat. Enjoy a progressive, rural city within easy reach of St. Cloud and Minneapolis. Contact: Dr. Jim Mohs, Melrose Clinic, 603 West Main Street, Melrose, MN 56352; office, 612/256-4228; home, 612/256-3488. (4/91-R)

General Surgeon to join a progressive 12-physician group practice. Rural college town 30 miles from St. Paul, Minnesota, constructing new clinic and hospital. Contact: Robert B. Johnson, M.D., River Falls, WI 54022; 715/425-6701. (*4/91-R)

General Internal Medicine: Marshfield Clinic, a 350-physician multispecialty group practice, is seeking BC/BE family practitioners to join expanding regional centers. Positions are available in west-central, northwestern, and north-central Wisconsin. These are beautiful, wooded Wisconsin areas with an abundance of lakes, rivers, and streams. All are ideally suited for physicians seeking to combine professional excellence in a Midwest, family-oriented location offering exceptional four-season recreational activities. Wisconsin consistently leads the nation in ACT and SAT scores, and the school systems in these communities are excellent. Each opportunity offers a superlative lifestyle. Each has its own special qualities with more attractive features relative to individual needs and preferences. Starting salary up to $99,700, with salary in two years up to $131,600. Fringe benefits package is outstanding. If this combination of professional excellence and lifestyle made possible through the back-up resources of a leading medical

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is seeking
BC/BE Physicians in the following areas:
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Obstetrics and Gynecology
to join physician-owned, multi-specialty clinic with offices in South Minneapolis, Bloomington, and Eagan.

Family Practice Obstetrics is optional. Shared call responsibilities and reasonable hospital coverage.

Contact:
John R. Bjorklund, M.D., President
Robert M. Vogel, Administrator
3017 Bloomington Avenue South
Minneapolis, Minnesota 55407
(612) 721-6511

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- Obstetrics/Gynecology
- Internal Medicine
- Urgent Care

This is your opportunity to join a progressive, growing medical team located in a land of lakes only 35 minutes from Minneapolis and St. Paul.

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Chisago Health Services
11685 Lake Blvd., N.
Chisago City, MN 55013

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612/257-8485

center in conjunction with the uncommon, varied beauty of Wisconsin's land and lakes sounds interesting to you, please send CV and references to: David L. Draves, Director of Regional Development, 1000 North Oak Avenue, Marshfield, WI 54449; or call 800/826-2345, Ext. 5376. *4-7/91

Family Practice: Marshfield Clinic, a 350-physician multispecialty group practice, is seeking BC/BE family practitioners to join expanding regional centers. Practice opportunities range in size from single specialty groups of three to multispecialty groups of 35. Positions are available in west-central, northwestern, and north-central Wisconsin. These are beautiful, wooded Wisconsin areas with an abundance of lakes, rivers, and streams. All are ideally suited for physicians seeking to combine professional excellence in a Midwest, family-oriented location offering exceptional four-season recreational activities. Wisconsin consistently leads the nation in ACT and SAT scores, and the school systems in these communities are excellent. Each opportunity offers a superlative lifestyle. Each has its own special qualities with more attractive features relative to individual needs and preferences. Starting salary up to $99,700, with salary in two years up to $131,600. Fringe benefits package is outstanding. If this combination of professional excellence and lifestyle made possible through the back-up resources of a leading medical center in conjunction with the uncommon, varied beauty of Wisconsin's land and lakes sounds interesting to you, please send CV and references to: David L. Draves, Director of Regional Development, 1000 North Oak Avenue, Marshfield, WI 54449; or call 800/826-2345, Ext. 5376. *4-7/91

Emergency Medicine: Marshfield Clinic-Lakeland Center, located in the beautiful Lakeland area of northern Wisconsin, is seeking an ER physician. This individual must be BC/BE in FP, IM, or EM. This opportunity offers a challenging variety of patients, within a multispecialty group representing 13 specialties available for back-up. The Lakeland area offers a unique recreation-oriented lifestyle, and this position with a 48-hour work week will afford you the leisure time to enjoy it. Compensation includes a competitive salary along with one of the finest fringe benefits packages in the country. If you want to combine professional excellence with personal satisfaction and this opportunity sounds interesting to you, please send CV and references to: David L. Draves, Director of Regional Development, 1000 North Oak Avenue, Marshfield, WI 54449; or call 800/826-2345, Ext. 5376. *4-7/91

Internal Medicine and Family Practice Physicians—BC/BE: Exceptional opportunity to join our well-established, very busy multispecialty clinic located in Milwaukee. Attractive and well-equipped building, including in-house laboratory, X-ray department, business department, etc. Excellent progressive hospitals, medical school, regional medical center. The greater Milwaukee area offers superb family environment, diverse cultural and recreational options. This is a

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Charles Schotzko, M.D. at
218-927-2157
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Fairview Physician & Clinic Services
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Bloomington, MN 55420
(612) 885-6225
or toll free 1-800-842-6469

OXBORO CLINICS

unique, outstanding professional and personal opportunity! Please send CV or contact: Jonathan Slomowitz, M.D., Mitchell Medical Center, 1672 South Ninth Street, Milwaukee, WI 53204; 414/383-4700. (4/91-R)

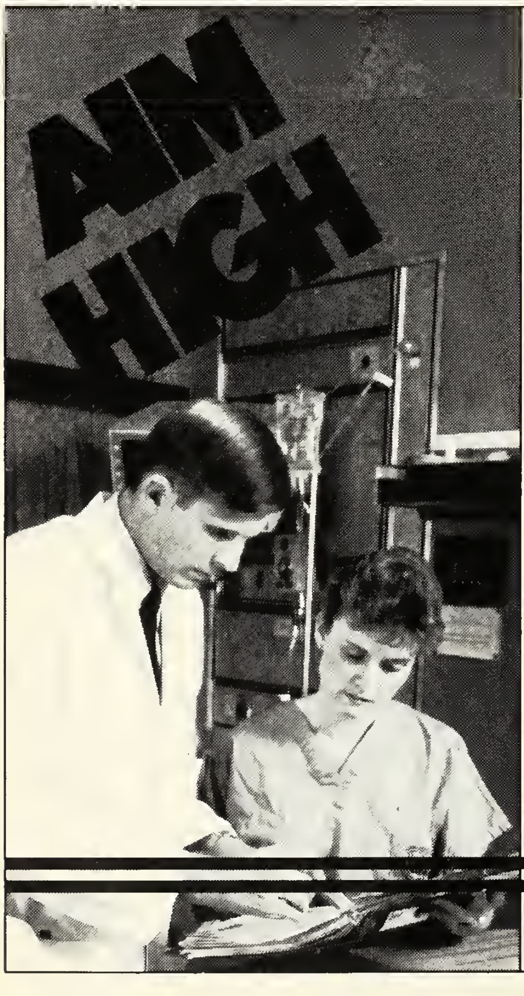
Interested in a Second Specialty? The United States Navy has positions available in aerospace medicine (flight surgeon). Upon completion of a minimum commitment of two years in this role, you will be given priority for any specialty training program within Navy Medicine. Options include but are not limited to: anesthesiology, family practice, internal medicine, neurology, neurosurgery, obstetrics and gynecology, orthopedic surgery, pathology, pediatrics, plastic surgery, psychiatry, radiology, surgery, and urology. Those selected must meet all requirements for appointment as Navy Medical Corps officers. Send CV to: Navy Medical Programs, 212 Third Avenue South, Minneapolis, MN 55401; 800/247-0507. Confidentiality will be maintained in all correspondence. *2-6/91

Office Space Available 5/1/91 for sublease. 1,220 square feet, Southdale Medical Building. Two exam rooms, conference room, waiting/reception area. Inquiries: 612/922-6074. 2-6/91

Internal Medicine Physician BC/BE to join 25-physician multispecialty group in Winona, Minnesota, with existing 10-physician Internal Medicine Department. Total draw of 40,000 population. Competitive salary offered. Interested physicians please contact: J.B. Knuesel, Administrator, Winona Clinic, Ltd., 420 East Sarnia, Winona, MN 55987. 3-6/91

BC/BE Ob/Gyn to join existing two-person practice at the 25-physician multispecialty Winona Clinic, Ltd., in Winona, Minnesota. Located in the beautiful Mississippi River Valley of southeast Minnesota, the community (with a 40,000-population trade area) is the host of two colleges and a diverse industrial base. Send CV to: J.B. Knuesel, Administrator, Winona Clinic, Ltd., 420 East Sarnia, Winona, MN 55987. 3-7/91

Family Practitioner: Community of 2,000, 50 miles northeast of Minneapolis/St. Paul, seeks additional family practitioner. Located on the St. Croix River and Minnesota border. Practice consists of 13 family practitioners, two internists, two general surgeons, and one orthopedic surgeon. Many specialists available on a part-time basis. Attached to a 90-bed hospital with comprehensive services available. Very stable medical group with pleasant working



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Minnesota—Pediatrician to join existing two-person practice at the 25-physician multispecialty Winona Clinic, Ltd., in Winona, Minnesota. Located in the beautiful Mississippi River Valley of southeast Minnesota, the community (with a 40,000-population trade area) is the host of two colleges and a diverse industrial base. Send CV to: J.B. Knuesel, Administrator, Winona Clinic, Ltd., 420 East Sarnia, Winona, MN 55987. 3-7/91

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owa Practice Opportunity in Estherville. Family physician needed to join established rural clinic. Located close to outdoor recreational areas, offers easy access to larger metropolitan cities in Iowa and Minnesota. Competitive salary and signing bonus available. Opportunity of practice ownership. Contact: Bill Tendle, LifeSpan, 800 East 28th Street, Minneapolis, MN 55407; 800/248-4921. *3-7/91

Mora, Minnesota—Family Physician needed to join a seven-member FP group. We are a well-established, expanding practice and offer competitive salary and benefits package with partnership available. We have JCAHCO-accredited hospital, on-site consultations from numerous specialty disciplines, satellite offices located in Pine City and Hinckley. Mora is a progressive community located 65 miles north of the Twin Cities with an excellent school system and many cultural and recreational opportunities within easy access. Contact: Larry J. Brettingen, M.D., 224 Seventh Street, Mora, MN 55051; 612/679-1340. 6-10/91

Eugene, Oregon: 42-physician multispecialty group is seeking BC/BE family physician. Practice includes ob. Excellent schools. Abundant cultural and recreational opportunities. Near Cascade Mountains and coast. Home of University of Oregon. Please send CV to: Rob Dougherty, M.D., Oregon Medical Group, 2484 River Road, Eugene, OR 97404; or phone: 503/688-9140. 3-7/91

Physician: BC in emergency medicine, experienced in FP (no ob), and licensed in Minnesota, South Dakota, Wisconsin, available for locum tenens coverage. Reply to: Minnesota Medicine (850), 2221 University Avenue SE, Suite 400, Minneapolis, MN 55414. (5/91-R)

Seventeen-physician Multispecialty Group needs FP, IM, ob/gyn, and peds. Located on the edge of the Ozarks only one hour from St. Louis. Excellent community to raise a family. Excellent school systems and a service area of 200,000 residents. Excellent benefits. Contact: Ronald Stevens, Administrator, Medical Arts Clinic, 301 West Liberty Street, Farmington, MO 63640; 314/756-6751. 3-8/91

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Rice Clinic Medical Center

CENTRAL WISCONSIN

The Rice Clinic, an expanding 29 physician multispecialty group, is seeking BC/BE individuals in the following specialties:

☐ Family Practice
☐ General Surgery
☐ Internal Medicine
☐ Nephrology
☐ Neurology
☐ Oncology
☐ Psychiatry
☐ Rheumatology

Attractive income and ownership arrangements. Excellent practice environment with many outdoor recreational and cultural amenities.

Send CV to:
Paul Ford, Administrator
Rice Clinic, S.C.
2501 Main Street
Stevens Point, WI 54481
or call collect:
(715) 344-4120

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OF • THE • TWIN • CITIES

Multicare Associates of the Twin Cities, a multi-specialty/multi-location, predominately Fee for Service Group located in the northern suburbs of the Twin Cities is recruiting Board Certified/Board Eligible Physicians in the following departments:

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- Occupational Health
- Family Practice with interest in Occupational Health
- Internal Medicine

Excellent salary and benefit package leading to shareholder status.

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612-785-3338

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located in rapidly expanding Twin Cities
suburban community, has immediate
openings for family practice physicians.

For more information, call:
Dave McCollum, M.D.
(612) 934-0570

CHANHASSEN
MEDICAL CENTER

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COVER

Global Medicine The idea of leaving a comfortable home to practice medicine amid the poverty common to developing countries may at first sound unappealing, but in this month's feature story (page 12), several Minnesota physicians describe the experience as highly rewarding.

On the cover, a child plays near the family bicycle-repair service in an AIDS-stricken area of Uganda, where Minnesota health volunteers have been active since 1983. Photo by Douglas Clement, a Minneapolis free-lance writer and photographer.

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Where Are the Physician Volunteers?

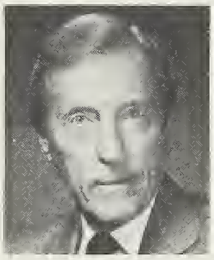
Edmund C. Burke, M.D.

A good friend of mine, Dr. George Cole, has been to Haiti on numerous occasions to volunteer at the Albert Schweitzer hospital. The problems in Haiti and other developing nations are overwhelming: malnutrition, malaria, parasitic diseases, AIDS, tuberculosis, infant diarrhea, anthrax, tetanus, rabies; the list goes on. The ailments Dr. Cole has treated in Haiti are ailments we usually only read about in textbooks.

With so much destitution in developing nations, the efforts of volunteer physicians seem miniscule—yet, it takes small bricks to build big walls and someone must lay those first bricks. *Minnesota Medicine*'s cover story this month (page 12) features three courageous physicians who ventured out of a world of comfort and security and into a world of poverty and medical chaos. Their experiences in the Third World were not easy, but they were highly rewarding. As one physician said, "It was just the richest kind of challenge."

This month's Perspectives piece (page 10) also takes the reader to the Third World—to the poverty-stricken streets of Cebu City in the Philippines, where Paul S. Sanders, M.D., chief executive officer of the Minnesota Medical Association, volunteered his medical talents.

These adventurous physicians may be unusual in their desire to volunteer across the globe, but they are not alone in their desire to help humankind. Physicians have traditionally been dedicated to helping people, particularly those in dire need of health care.



"I find it hard to believe that today's young physicians are any less idealistic than my generation was 40 years ago."

Physicians don't need to leave the country, or even their hometowns, to help others. Every community needs volunteers, and perhaps it's the traditionalist in me, but I believe physicians have a moral obligation to step in.

Volunteerism is important in small towns as well as large metro areas. Charles H. Mayo set the perfect example in Rochester. He determinedly set out to eliminate health hazards and sources of pestilence that were contaminating the city's water. These and other efforts by Charlie Mayo provided the initiative to improve the community. Such stories can be found in many communities.

But perhaps times are changing. I was recently disappointed by the unwillingness of Minnesota's physicians to volunteer their time. When the Minnesota Medical Association's newsletter, *The Monitor*, recently asked for volunteers to conduct camp physicals for underserved youth, not a single physician stepped forward. I find it hard to believe that today's young physicians, as beleaguered as they may be, are any less idealistic than my generation was 40 years ago.

My bias has always been to get involved in a service club—in my case, Rotary, which plans and implements community service programs, but there are limitless opportunities to become involved in your community. You can discuss substance abuse with junior high or high school students or work with the homeless. Perhaps your community has a Dorothy Day center or a similar shelter in need of compassionate volunteers. Rochester has a successful organization called Elder-Net, which recruits volunteers to visit and counsel elderly people in their homes.

If you really want a challenge, sign up to teach religious doctrine to a class of seventh-graders. Such a volunteer effort was one of the toughest assignments I ever undertook.

Physicians are important assets to their communities. We have strong educational backgrounds that afford us a slightly different view of the world and humanity. As a result, we have a moral obligation to help our fellow human beings, whether it's in a far-reaching capacity serving on the community health or education board, as mayor, council member, or commissioner, or in an equally important capacity as a volunteer at a camp for underserved youth.

Get involved. I'm confident you will feel a sense of gratification and will find it rewarding to work alongside your neighbor—the carpenter, the lawyer, the car dealer, or engineer—in a non-professional capacity. Naturally, you aren't trying to be a hero, but I believe you'll feel like one in your heart by the end of the day.

If this editorial has inspired just one physician, my effort has been well-spent. MM

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Investigating the Genetics of Heart Disease

Minnesota Medicine interviews James E. Hixson, Ph.D.

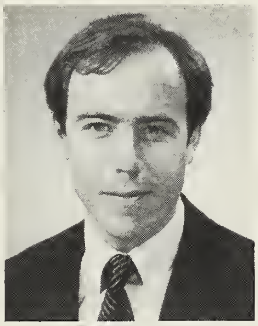
Coronary heart disease is the No. 1 killer in the United States. It causes more than 550,000 deaths each year, and more than 5.4 million Americans have symptomatic heart disease caused by coronary atherosclerosis. Researchers now know that atherosclerosis starts early in life and can occlude coronary arteries by middle age.

Risk factors for atherosclerosis are numerous—diet, smoking, diabetes, and high blood pressure, to name just a few. Genetics also determines a person's susceptibility to atherosclerotic lesions, and in the following interview, James E. Hixson, a geneticist at the Southwestern Foundation for Biomedical Research in San Antonio, Texas, discusses what he has discovered about the genetic component of heart disease.

Hixson is part of the multicenter study, Pathobiological Determinants of Atherosclerosis in Youth (PDAY). The study is investigating the normal development of atherosclerosis in 15- to 34-year-olds who have died accidental deaths, assuming these subjects represent normal progression of atherosclerosis at an early age.

PDAY results have confirmed that atherosclerosis starts early. Such results led the National Cholesterol Education Project to recommend in April that children whose parents or grandparents had heart attacks or other cardiovascular problems at an early age be tested for high cholesterol and put on low-fat diets.

Having a parent or grandparent with heart disease is a fairly accurate predictor of susceptibility to heart disease, although some research suggests that screening only children with a positive family history will fail to identify a large proportion of children with high-risk cholesterol levels. Hixson hopes his research will make predicting susceptibility to heart disease less of a guessing game. He is looking for genetic markers that correlate with atherosclerotic lesion development and can be used to identify people at risk. He predicts that, in the future, genetic testing for these markers will become part of clinicians' diagnostic bag and will be used to warn people of their genetic risk early in their lives.



James E. Hixson, Ph.D.

"This is an amazing opportunity to look at the direct effect genes have on the development of lesions."

Where He's Coming From

Minnesota Medicine: Dr. Hixson, tell us a little about your background.

Hixson: I'm originally from Austin, Texas, and I received my bachelor's degree from the University of Texas in Austin. From there, I went to Ann Arbor, Michigan, where I completed a Ph.D. in human genetics. From Michigan, I moved to Stanford University, where I did a post-doctoral fellowship for two years. At the end of the post-doctoral fellowship, I accepted a position at the Southwest Foundation for Biomedical Research in San Antonio.

Minnesota Medicine: Tell us about the Southwest Foundation, where you are currently doing your research.

Hixson: The Southwest Foundation is a private biomedical research foundation. It's nonprofit and has an endowment, but most of the laboratory funding comes from the National Institutes of Health (NIH).

Minnesota Medicine: I understand it's one of the largest primate labs in the country.

Hixson: I believe it has the largest colony of baboons in the entire world. We have about 2,800 baboons living in different quarters on the foundation grounds.

PDAY—What It's About

Minnesota Medicine: However, that's not really what your study involves. During the presentation you just gave to residents in the Department of Pediatrics at the Mayo Clinic, you described a study with the acronym PDAY. What does that stand for, and what is the study all about?

Hixson: PDAY is an acronym for Pathobiological Determinants of Atherosclerosis in Youth. It's a very large study that has been underway for eight years. The study examines the early stages of atherosclerosis in young people who have died accidental deaths, the idea being that these individuals represent a "normal" population with respect to heart disease. The goal is to look at the "normal" progression of atherosclerosis at an early age—in people aged 15 to 34. When an individual near one of our participating centers dies of a homicide, suicide, or an accident, the medical examiner removes the individual's arteries and sends them to one of our processing centers. Researchers at the centers stain the arteries to look at cholesterol build-up in the lesions.

The program was set up to look at the progression of lesions in this age group. I became involved with the study because there is a genetic component to atherosclerosis. The PDAY study provides a unique opportunity to identify genes that predispose people to developing atherosclerotic lesions.

Minnesota Medicine: When did this study begin?

Hixson: The PDAY study was conceived in the 1970s, and the first pilot feasibility study went from 1985 to 1986. When I became involved in 1987, we began to take out a sample of the subjects' livers at autopsy. Liver is a tissue from which DNA is easily processed, so by creating this bank of liver samples, we are actually accumulating a collection of DNA from these individuals. We look for genetic markers in the DNA, which we can correlate with the lesion examinations done by pathologists. This is an amazing opportunity to look at the direct effect genes have on the development of lesions.

> "Smoking plays a significant role in determining atherosclerosis risk at an early age."

Minnesota Medicine: How many subjects have been involved in this study?

Hixson: About 1,500. Additionally, NIH has just funded an extension of the project, which will collect a larger sample and focus on women. One problem with the initial collection is that it mainly focused on men, which we know are at higher risk for heart disease. Our intent is to increase the sample size and collect more data on women in the same age group.

Minnesota Medicine: What institutions are involved in the study?

Hixson: Some very prominent people and institutions are involved. One important participant is the Department of Pathology at the Louisiana State University Medical Center, directed by Dr. Jack Strong. LSU collects cases, and it also measures all the serum risk factors, like LDL and cholesterol levels. Pathologists actually grade the arteries at LSU. They apply a dye that stains the cholesterol on the artery wall, and then they visually assess each artery's percentage of involvement and observe how the lesions develop.

Another is the University of Chicago. Dr. Robert Wissler, whose main interest is the microscopic developments within the lesion, heads the study there. He looks at the atherosclerotic lesions themselves and tries to identify the presence of viral particles and apolipoproteins that are actually in the lesion.

Drs. Henry McGill and Alex McMahan are at the University of Texas Health Science Center at San Antonio, also a key institution. Alex McMahan is in charge of the statistics for the study. All the case information goes to him, and he's responsible for analyzing relationships between the measurements.

Results to Date

Minnesota Medicine: What can you tell us about your results to date?

Hixson: We have had some very exciting results. The first published paper on the study, which appeared in *JAMA* (1990;264:3018-24), looked at the relationship of known risk factors to the development of lesions. The results were striking and very much what people had anticipated. The study found that high levels of LDL are definitely associated with the development of lesions, even in young people aged 15 to 34. It also found a negative relationship between HDL and lesions, meaning that low levels of HDL are associated with lesion development. The biggest news in terms of public health is that smoking plays a significant role in determining atherosclerosis risk at an early age. Even in 15- to 34-year-olds, smoking makes a very pronounced difference. Smokers start with more lesions than nonsmokers at age 15, and as the years progress, they accumulate even more lesions. The study shows that smokers have a much-increased risk of developing atherosclerosis. Its lesson is clear: Don't smoke.

Minnesota Medicine: Medicine needs this clout because the tobacco companies are still insisting that people don't get cancer and other health problems from smoking. The medical profession has tremendous difficulty convincing the public of the risks. What is the mortality rate for atherosclerosis?

Hixson: Heart disease is still the No. 1 killer in this country. The data I have are from 1987, but they show heart disease is the cause of over one-third of all deaths in the United States—far higher than the death rate from cancer or any other disease.

Heart disease is very difficult to study. We know it has a genetic component, but it also has very strong environmental and dietary components. We know heart disease is a major disease, that there's a genetic predisposition to it, that it's complicated, and that more than one gene causes it. The PDAY study, in addition to a number of other studies around the country, is trying to identify different gene markers that indicate whether a person has an increased risk or a lower risk for heart disease later in life. People who know they are at risk can make lifestyle choices based on that knowledge. For example, if you are a genotype that is less susceptible to disease, you may not have to be as careful with your diet. If you're a genotype with a higher risk, you probably want to know that as early as possible so you can alter your diet.

The PDAY study is an excellent way to study heart disease because it looks directly at the process of atherosclerosis.

Future Benefits

Minnesota Medicine: You mentioned some of this study's implications. What do you see as other benefits?

Hixson: I believe we are still in the beginning stages. I would like to investigate a large number of different genes that we think may be involved in atherosclerosis and put together a package of gene markers to assess risk levels. The role of geneticists is always very strange. We can determine genotypes and tell whether or not someone has increased susceptibility to a disease, but we can't do much in terms of intervention and cure. If we are successful—and I believe we already are, to some degree—genetic testing will be much like measuring cholesterol levels. At the clinic, individuals will be typed early in life for the DNA markers that we think indicate a susceptibility to disease. This DNA typing will become as important as getting your cholesterol checked. As we identify these genes, the testing will become part of the diagnostic bag of clinicians all over the country. Of course, it will be up to individuals to act on the information.

Minnesota Medicine: This testing has tremendous potential. Widespread misinformation about cholesterol has given people weird notions about diet and cholesterol levels, and some people think they should have diets with zero cholesterol. The confusion is only multiplied by physicians' disagreement over the extent of risk involved with high cholesterol levels. Does the PDAY study offer any answers to the cholesterol controversy?

Hixson: The PDAY study does not directly examine the effect of dietary cholesterol on atherosclerosis. However, results from PDAY show that higher levels of serum cholesterol are associated with increased atherosclerosis, even in young people who are many years from the onset of clinical disease.

Minnesota Medicine: What direction will your studies take in the future?

Hixson: I want to take a more direct look at how various genes affect atherosclerosis. Right now we are doing population association studies, which determine *whether* a particular gene is involved but not *how* it's involved. In future studies, we would like to investigate the role of individual differences in gene structure or expression in the development of atherosclerotic lesions. MM

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Philippines City of Contrasts Holds Lessons for Minnesota Physician

Paul S. Sanders, M.D.

3 a.m.—I'm wide awake. (My mind and body still think they're in Minnesota!) The neighborhood roosters are crowing, the dogs are barking, and the local police are parked out front, where they have spent the night patrolling the home of the American Consul to Cebu. I arrived last evening after passing through guard gates into a small, enclosed community in Cebu City—a city of contrasts.

Cebu City is the capital of Cebu, the second largest island in the Philippines. It is about halfway down the chain of 7,000 islands that compose the Philippines and is about equidistant between the large island of Luzon, with the capitol city of Manila, and the large, politically troubled island of Mindanao to the south. The majority of people are bilingual, speaking both English and Cebuano. We will spend the next week with the children and staff at the Children's Shelter of Cebu (CSC) evaluating the medical needs of the resident children, reviewing medical care protocols, and establishing a pharmacy with the barrels of medicines we brought with us through the generosity of several U.S. pharmaceutical firms.

The shelter, established in 1978, was the vision of a young woman from Minneapolis who visited the island with her father, saw the children's extensive needs, and returned with her husband to begin the remarkable organization. The young couple began by literally picking children off the streets of Cebu. Today, CSC provides residential care to more than 50 children, feeds more than 100, and runs many day care centers. It is funded entirely by donations from individuals and churches.

Visitors are immediately struck by the large number of children in Cebu City; large families are the rule rather than the exception. The streets fill in the morning and evening with uniformed men and women going to work and children going to school. Visitors are also struck by the city's many contrasts. The wealthy contrast with the poor, the educated with the uneducated, and the healthy with the ill. Many beautiful homes are located behind guarded gates, while the majority of people live in poorly constructed shacks. Many people have taken up residence in the cemeteries, where crypts have become homes and children literally play among the bones.

The medical needs of the CSC children are many. Bloated bellies and peripheral edema from Kwashiorkor (protein deficiency) are common, as are the alopecia and skin changes of vitamin and mineral deficiencies. Tuberculosis is rampant; usually three or four children must be treated for active tuberculosis—all are Mantoux-positive. Immunizations are unheard of. When children arrive at the doors of CSC, they are usually infested with flat worms, round worms, and other parasites. Common childhood diseases like otitis media often proceed to mastoiditis. Visual problems from vitamin A deficiencies are common. Dental problems that begin early and go untreated require significant restorative dental work.

> "The common denominator of most medical problems here is poverty."

The common denominator of most medical problems is poverty, which has produced poor sanitation—open sewers running through the city's market places—and inadequate nutrition.

Medical care for CSC children is provided in the private sector. Hospitalization is available at the Cebu Doctors Hospital or the Hospital of the Southern Islands. Cebu Doctors Hospital is a privately owned, modern hospital, complete with such equipment as CT scanners, gastrointestinal and bronchial endoscopy, and lithotripsy. A short distance from the Cebu Doctors Hospital is the Hospital of the Southern Islands (HSI), where the poor receive care. The hospital continually struggles with antiquated equipment and facilities and lack of medications, disposables, and the other items commonly needed for basic medical care. Many of the CSC children initially receive care at the Hospital of the Southern Islands. In fact, CSC's first contact with many of the children is at HSI. Once delivered to CSC, however, the children primarily receive medical care in the offices of private physicians at Cebu Doctors Hospital.

In addition to arranging the children's medical care, CSC is responsible for the feeding program at Tejiro Elementary School. Every child entering school in the fall is weighed, and the most severely malnourished are provided with a nutritious meal for 50 centavos (about 2¢) a day. Children in the program are weighed each month, and those who gain sufficient weight to survive are dropped from the program to make room for a child more malnourished. As part of the program, the children's mothers are instructed in shopping for nutritious foods and appropriately preparing food to preserve its nutritional value.

The shelter also sponsors the Magbalanty Day Care

Program, providing care for many children throughout the day so their mothers (usually single parents) can work.

Cebu Children's Shelter has become the model adoptive and residential care program in the Philippine Islands. Its activities have so impressed the Philippine government that the director of CSC, an American citizen, sits on the government board directing social service programs for children. More than 130 children have been adopted through CSC, mostly to homes in the United States and Europe (especially Scandinavia). A small number of children are long-term residents of CSC because of medical problems, including mental retardation, cerebral palsy, and developmental disabilities.

My visit to Cebu really came quite by accident. It was tacked onto a trip to Tokyo, a destination I had wanted to visit for some time. But, as is often the case, the secondary goal proved more worthwhile than the primary goal. My days spent at Children's Shelter of Cebu were very enlightening to this U.S. physician so well steeped in the complexities of Medicare, Medicaid, HMOs, indemnity plans, and the other "stuff" of American medicine. At CSC I learned about the successes of a small group of people doing their best to provide care to a very needy group of people, and I saw what can be done with limited resources. For example, I faced the challenge of categorizing and tabulating the medications in the pharmacy in such a way that when a youngster visits a physician, the doctor can be told what medicines are available, even if they are not necessarily the optimal choice. In the United States, we have become so used to first-choice medicine that it's difficult to imagine relying on second and third options.

CSC relies heavily on Filipino employees to give daily care. The dedication of these employees was demonstrated by their enthusiastic response to a basic CPR course I taught. Never have I worked with a group so responsive and eager to learn—even without the use of Resusci-Annies and the usual audio-visual help we have in the States.

I learned many lessons from these youngsters. I was reminded that one of the ways to acquire all you want is to want less.

We enjoyed the luxury of staying in a private guest house with comfortable rooms, American meals (don't drink the water!), and running water. How different from the people who crowd the city's streets from sunup until late into the night!

Cebu is a beautiful island with squalid cities contrasting sharply with beautiful beaches and lush mountains, and elegant homes contrasting with makeshift huts erected among the scattered bones of a public cemetery. I saw much to challenge me, and I hope to return sometime with my family. My few days in this city of contrasts have helped me to learn the meaning of the passage, "Much is required from those to whom much is given, for their responsibility is greater." MM

Paul Sanders, a family physician from Cambridge, Minnesota, is CEO of the Minnesota Medical Association.

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COVER STORY

Physician Volunteers Reap Rewards of

GLOBAL MEDICINE

When high-tech doctors practice medicine in the no-tech Third World, something happens to them. "The physician goes to Africa and comes back a different person," says Hakon Torjesen, a former diplomat who is now assistant professor of medicine and executive director of the Center for International Health at Case Western Reserve in Cleveland. American health professionals make profound contributions overseas, but that's nothing compared with what happens to the volunteers themselves. Their lives get turned around, says Torjesen, who has strong connections to Minnesota and is a founder and former president of Minnesota International Health Volunteers (MIHV).

"They [physicians] bring back more understanding of the health priorities of the planet," Torjesen explained. "They bring back more clinical skills because they rely more on their clinical judgment than they do on technology to answer questions. And they bring back a far broader sense of perspective about the health realities in their own practice and in their own community."

• • • • •

By Miriam K. Feldman

PHOTO BY DOUGLAS CLEMENT

Immunizations for children and health education for parents are the main goals of the Kasangati Health Center's mobile clinic in Uganda. In the 1980s, MIHV volunteers helped re-establish the center.

Interviews with Minnesota physicians who have volunteered in developing countries confirm Torjesen's comments. Physicians are changed by their experiences overseas, where they learn to practice medicine amid extreme poverty and under the most primitive conditions. They experience firsthand the reality of practicing medicine in countries where the average per capita health care expenditure may be as low as $4 a year. (By contrast, the United States spent $2,354 per capita on health care in 1989.)

Irving Shapiro, M.D., medical director of the state-of-the-art Phillips Eye Institute in Minneapolis, quickly learned that if he wanted to wash his hands between patients, he had to supply his own soap and towel at the hospital where he worked in Agra, India. What's more, by supplying soap and towels he was communicating to local doctors that hand washing is a necessary procedure when seeing patients.

Many physicians are scared off by such primitive conditions and never return, but others say they want to return, and many have done so already, again and again.

Physician volunteers come from a variety of backgrounds and medical specialities. Some volunteer for a week, others for a year or more. Some physicians wait until they are retired, and some go while they are students or just finishing school. Others take time off in mid-career. Many go because they had a calling, while others speak in less spiritual ways about the need for a different experience.

Paul Buhr, M.D., a family practitioner in Olivia, Minnesota, has made three trips to Madagascar to work in a mission hospital. It has been 11 years since his last visit, but he looks forward to a time when he might return. He speaks for many physician volunteers when he explains why he is eager to go back some day. "I have never had a job that I enjoyed doing as much," says Buhr, who spent a total of six years in the country. He describes the joy of waking up eager to face each new day. "Every day we had a chance to save a life," he says. "That happens very rarely here."

Following are the stories of three Minnesota physicians who share Buhr's enthusiasm for global volunteerism.

Helping People to Help Themselves

In 1988, Arnold S. Anderson, M.D., spent six months working in Dagoretti, a squatters' settlement on the western outskirts of Nairobi, Kenya. He traveled under the auspices of Minnesota International Health Volunteers (MIHV), a small, nonprofit group that was establishing a clinic and community-based health care program to serve women and children.

PHOTOS COURTESY OF MIHV

Dr. Arnold Anderson with Kenyan officials in Dagoretti.

The assignment was a natural for Anderson, a pediatrician who had given a lot of thought in recent years to child nutrition and infant feeding in developing countries. Who could be better qualified to establish a child health care clinic than Anderson, who years ago helped set up the pediatrics department at Park Nicollet Medical Center and later took an active role in founding Minneapolis Children's Medical Center? Yet, for Anderson, the assignment at Dagoretti was fraught with frustration.

Anderson, who loves the hands-on work of holding babies in his lap or peering down their throats, would have preferred to see patients during his stay in Kenya, but instead, he was there to help establish a clinic. Unlike most other medical volunteer programs, MIHV does not provide direct care. Instead, MIHV's focus is on enabling communities to establish primary health care programs, which the communities run, said Anderson, president of MIHV and former volunteer executive director. "Instead of going over to take care of people, we went over to enable people to take care of themselves," he explained. And that, he added, "is not as gratifying as providing direct service."

The rewards of medical practice in the Third World can be difficult to put into words, but when Anderson describes his work in a Laotian refugee camp in Thailand in 1980, his choice of words is apt. "It was just the richest kind of challenge," he said. "There were so many things you could do for them with American technology, with antibiotics, antiparasitics, and what we have learned about nutrition. It was spectacularly wonderful. We could change infant mortality."

But in Dagoretti, instead of treating sick children, Anderson was mired in local politics, customs, cultures, and bureaucracies. As he describes it, "You have a socioeconomic cultural situation as your patient. This

Something for the Whole Family

You don't have to be a doctor or nurse to take part in a foreign medical mission. Health care workers who volunteer in developing countries often are accompanied by spouses and children. Traveling *en famille* is not only feasible, say those who have done it, it's also a great adventure.

"There's room for anybody who's interested and has patience," says Janet Shapiro, who traveled to Agra, India, with her husband, Irving, medical director of the Phillips Eye Institute in Minneapolis. Janet Shapiro, who is a research associate at the University of Minnesota's School of Public Health, worked with Indian public health researchers in the community while her husband saw patients at a local hospital. "It was just a marvelous experience," she said. Volunteers must pay their own way, Shapiro points out, but once they arrive, there's plenty of work to be done. "The need is enormous," she said. "There's work for every willing pair of hands."

William Gamble, M.D., found that to be true, also. Gamble, a surgeon at Methodist Hospital in suburban Minneapolis, traveled to Honduras on a medical mission that included some engineers. He recalls wondering what they would do, but quickly discovered that engineers were among the most useful members of the team because they fixed all the broken equipment.

Gamble has taken different family members along on each of his 10 trips to Honduras, and they have always found something to do. His wife has served as a translator, and his children have worked as general helpers.

One reason Gamble traveled to the Third World was to expose his teen-age children to a different culture and to a society where people are not as privileged as most Americans. "It's been an incredible benefit for our family," he said. "All have taken an interest in Latin American culture, and all have become fluent in Spanish." His three children are grown and no longer accompany him on medical missions, but they all have chosen to work in the caring professions, he says, attributing these interests to their experiences in Honduras. "It's had a real impact on their lives," he said.

requires a body of skills and knowledge that we don't have as doctors from this country."

When asked why he volunteers for such frustration, Anderson's reply is brief and rhetorical: "We do in life what we're called on to do. That's what you do in life, isn't it?"

Volunteering with an organization like MIHV requires a commitment of anywhere from six months to two years because the work is slow. "Enabling a community to develop a new program and service through volunteerism requires a tremendous amount of dialogue with village elders," Anderson explained. "Not only was it a first-time experience for them, but it was a first-time experience for us."

The process was slow in part because community leaders had to evaluate every proposed service to determine whether and how it could be paid for and sustained, Anderson said. In Dagoretti, it took five years to get the health center up and running, and MIHV expects it will be another five years before the program can be totally managed and funded by the community.

Anderson and his wife, Rusk, who joined him in Dagoretti, had their first taste of international work in 1978, when they spent a month in Togo and consulted with the president of the country. In 1980, their daughter-in-law, a former Peace Corps volunteer and a physician, wanted to do some work in the Third World, so the extended family packed up and moved to a Laotian refugee camp in Thailand, where they treated victims of the Vietnam War for six months.

The Andersons returned recently from a second visit to Kenya, where they participated in the opening of the Chandaria-MIHV Health Center. That trip was combined with a visit to Agra, India, to assess what MIHV's contribution might be to a 100-bed hospital endowed by a Twin Cities importer-exporter, P.C. Mangalick.

> "Instead of going over to take care of people, we went over to enable people to take care of themselves."
>
> *–Arnold Anderson, M.D.*

The Andersons don't speak of any immediate travel plans, but in the meantime, Dr. Anderson, who retired as medical director of Minneapolis Children's Medical Center in 1986, works one day a week at Pilot City Health Center, a low-income clinic on Minneapolis's North Side. He says his experiences in developing countries have given him insights into his medical practice here. "Third World medicine is closer to Pilot City medicine than Pilot City medicine is to St. Louis Park's, so there's a lot of crossover and dynamics that we can learn from."

Anderson says he is a better doctor because of his work overseas. "I am sure I was at least fivefold better by virtue of the work I did in the Third World," he said. "You go see another culture, and that gives you insights into your own culture."

Rusk Anderson with a Dagoretti mother.

Traveling with children has its rewards, but it also has drawbacks. "There is a price," said Rusk Anderson, who traveled to Thailand in 1980 with her pediatrician husband, Arnold, and some of their children and grandchildren.

"The very young children, belonging to our son, had giardiasis and got over it, but that was a very trying time," she said. "And we had our hands full with our adolescent daughters because there's a change in culture, and they continued to be American girls in a much more restrictive culture." Nevertheless, the trip was a good one for the girls, one of whom stayed for an additional six months to run a nursery school and feeding station in the refugee camp.

There has always been plenty of work for Rusk Anderson, who trained as a medical social worker and then set her career aside to raise 10 children. The trips she took with her husband allowed her to pick up where she had left off years ago. In Togo, she worked as an office assistant and nursing assistant. In the refugee camp in Thailand, she was an advocate for lost families. And in Kenya, she worked as a mediator, trying to ease tensions between local factions. "My job is whatever needs to be done," she said. "I think I'd been waiting my whole life to do it."

Anderson believes that many people are scared off by the thought of spending time in a developing country, but she would encourage anyone who is willing to try it. All it takes, she says, is "an adventurous spirit and a lack of shyness about building bridges to other people." Those who try it are in for a surprise, she says. "They're on the threshold of a real mind-blowing experience."

–by Miriam K. Feldman

MAKING A WORLD OF DIFFERENCE

During her three years as a resident in family practice at Methodist Hospital in St. Louis Park, Minnesota, Susan Vitalis, M.D., never saw a case of meningitis. Even if she had, nothing could have prepared her for what she would encounter as a volunteer physician at Tenwek Hospital in rural Kenya. In just three months, Vitalis saw more than 200 cases of meningitis during an epidemic that was so severe it wiped out entire villages.

The contrast to her clinical experiences was profound, but daily she observed other disparities between Western and Third World medicine. The differences taught her that while some health care systems have too little, it is also possible to have too much.

Vitalis, 29, had wanted to work in Africa for as long as she could remember, so she seized the opportunity to go during the break between residency and the start of a job at Park Nicollet Medical Center's urgent care clinics. "It was my calling," she explained during an interview that doubled as a lunch break.

Through word-of-mouth, Vitalis heard about World Medical Missions, an interdenominational group that had established the 299-bed Tenwek Hospital. Unlike some other mission-sponsored groups, World Medical Missions expects medical volunteers to do spiritual counseling and requires them to sign a form upholding the mission's beliefs. Vitalis, the daughter of a Lutheran pastor, was comfortable with that. She didn't counsel every patient, but she says that the spiritual component of her mission was very important to her. She particularly tried to reach patients with cancer, AIDS, and other terminal illnesses to determine whether they had any belief or support systems and to encourage them to talk with the mission chaplain.

Vitalis's main mission was medical, however, and most of her energy was spent running two wards and treating outpatients. Tenwek Hospital is in a rural area 230 miles from Nairobi. The population of 300,000 is so spread out that it often takes two days for people to reach the hospital. Most of Tenwek's equipment and supplies are hand-me-downs from U.S. hospitals, so "things often didn't work real well," she said.

The days were long, but her routine, like here, included a morning report, rounds, standard patient care, and work in the outpatient clinic. The similarities ended there. Everything at Tenwek was in short supply, from needles and medications to beds.

"We reused everything," Vitalis said. "The needles were getting so dull we could hardly get them in." At one time, 56 patients filled the 40 beds in her wards.

Some supplies simply were unavailable, such as the vaccine that could have prevented the meningitis outbreak. Local doctors were also unavailable. In a situation all too familiar to Minnesotans, the rural Tenwek Hospital couldn't recruit doctors. Instead, it was run by a core of full-time physician missionaries from the United States who were supported by volunteers like Vitalis.

The experience left Vitalis with a sense of what she calls the "injustice of the distribution of money and goods." Back in the United States, she would hear about the thousands of dollars spent on life-support systems when treatment was futile, and all she could think about was how money was needed to buy vaccines to prevent Kenyans from dying of meningitis.

Vitalis returned to the United States with more than a sense of injustice, however. She also learned that doctors can practice good medicine without a lot of high-tech backup. Her own clinical skills also improved. "I brought back more of a fine-tuned physical exam. I had to rely more on my physical exam than on lab tests," she explained.

> "When I left, I knew I was leaving a hole. I made a difference."
>
> *–Susan Vitalis, M.D.*

"We don't need all the things we have here," she added, citing prenatal ultrasound as an example. A good exam also can determine the position and growth of the fetus, but ultrasound is often used for documentation because physicians tend to be on the defensive, she says. In fact, Vitalis didn't realize how defensive she felt in the United States until she worked in Kenya. "It was really nice to practice without the lawsuit over my head. My decisions were based on what I felt was really needed for this person. I didn't have to worry if [my decision] would stand up in court or if someone would come back and sue me."

Vitalis would like to return to Africa, possibly for a year, but first she has to save some money and pay off student loans. She will return because she derives satisfaction from the work. Most doctors would benefit from a similar experience, she says.

"It's just so needed. Doctors are needed here, too, but there, it's often the difference between someone seeing a doctor and not seeing a doctor. I know if I wasn't here, there would be someone who would fill my slot. There, when I left, I knew I was leaving a hole. I made a difference for the patients and the other doctors."

CHANGING THE WORLD FOR ONE PERSON

In 1976, William G. Gamble, M.D., joined a group of health care workers from Minneapolis and spent two weeks in Honduras, one of the poorest countries in the Western Hemisphere. Gamble, a general surgeon, worked in La Ceiba, a seaport with a population of 50,000.

La Ceiba has the typical health problems of an impoverished region, most notably, infectious disease and malnutrition. It is a far cry from Edina, where Gamble was ensconced with his wife and three children when he first had the idea to volunteer his services. Ultimately, it was the comforts of home in the tony suburb that prompted Gamble to venture to Honduras. He wanted his children to learn that Edina's affluence did not extend to the rest of the world. So he and one son, then 15 years old, joined up with Medical Group Missions, an organization that sends teams of health care workers to La Ceiba and other cities in Central America for two weeks every March.

> "You don't change the world, but you can change it for one person."
>
> *–William Gamble, M.D.*

"I was interested in having our kids—when teen-agers, when growing up—find out what the rest of the world was like," Gamble explained recently during an interview in his office at the Park Nicollet Medical Center in St. Louis Park.

As it turned out, Gamble, who has been practicing at Methodist Hospital for 25 years, had much to learn, too. Like others who have volunteered in developing countries, he talked about how meaningful the experience was. "Usually, you get a lot more out of this than you can contribute," he says, with what appears to be a characteristic touch of humility.

People must contend with poor medical conditions in La Ceiba, where supplies are limited or nonexistent and facilities are run-down or broken. Gamble recited a litany of problems that must be familiar to any medical worker who has been to the Third World. Despite the intense heat, the government hospital has no air conditioning. The electricity and water frequently stop working. The sterilizer usually doesn't work, and the lighting in the operating room is poor. Antibiotics are scarce, as is local anesthesia, so people are used to having lacerations sewn up without it. There are no adequate lab and X-ray facilities. Nonetheless, Gamble, who has visited La Ceiba 10 times with different members of his family, eagerly anticipates the next trip.

"The thing that amazes me is how much the local physicians can accomplish with so little. They're so resourceful," said Gamble, whose own accomplishments locally include earning Methodist Hospital's Earl G. Young Physician of Excellence Award last year, as well as the University of Minnesota's Wangensteen Award for Excellence in Teaching.

The resourcefulness of the Honduran physicians has given Gamble insights into some of our own wasteful medical practices. We could, for example, discard fewer items, he suggests. "We could equip a hospital there with what's thrown away here," he said. "A lot of things we take down there are what hospitals have thrown away."

It is with these discarded items that Medical Group Missions is able to serve about 30 projects a year in Central America. The La Ceiba project involves about 100 volunteers, including physicians, nurses, family health workers, and dentists.

Gamble's days at La Ceiba are long, beginning at 6 a.m. and often going to 9 or 10 p.m., but that doesn't mean he sees more patients there. Everything simply takes longer because of the conditions, he explains. Yet, volunteers provide a great deal of care in two weeks. For example, Gamble recalls a child whose vision was restored when an ophthalmologist performed a successful cornea transplant.

Over the years, some of the most difficult cases have been transferred to the Twin Cities, and Gamble's family has taken in a dozen patients who have been sent here for heart surgery, scoliosis treatment, and reconstructive surgery for burns and scars.

The project in La Ceiba is sponsored by a missionary group, which means there is a religious element to the work, but the health care volunteers come from a variety of denominational backgrounds and are not expected to proselytize. "The beauty of our organization," said Gamble, "is that it gives someone the opportunity to have a short-term missionary experience."

There are those who argue that this Band-Aid approach to health care doesn't solve anything because it doesn't address a society's underlying problems. Gamble acknowledges that viewpoint, but he doesn't share it. "Maybe we'd be better off trying to get them clean drinking water, immunizations, and public health measures," he said, but he defends using short-term measures as well. "You wind up helping fewer people, and you don't change the world. But you can change the world for one person."

Continued

Where in the World Should You Start?

There's no central clearinghouse for medical volunteers, so it's impossible to know just how many physicians volunteer their services overseas, but the number must be great, judging by the report of one group. Medical Group Missions, the largest short-term volunteer medical mission in the world, sends 1,500 volunteer medical professionals annually from North America. Hundreds of agencies—from the American Red Cross, to the American Refugee Committee, to the World Health Organization and Lutheran World Relief—rely on physician volunteers.

Many people learn of overseas positions by word-of-mouth. For those who don't know where to begin, here are a few places to start looking:

- **Minnesota International Health Volunteers** (MIHV) is a small, nonprofit group that teaches, supervises, and provides community-based health care in developing countries. MIHV is unusual because it does not send volunteers to do clinical work. Instead, its volunteers serve as educators and consultants whose goal is to train the local community to help itself. MIHV is currently seeking a volunteer clinic administrator, primary care physician, and nurse with public health background for its project in Dagoretti, a squatters' settlement on the western outskirts of Nairobi, Kenya. For details call 612/871-3759.
- **U.S. Medical Aid Foundation** is a locally run project started by P.C. Mangalick, a Twin Cities importer-exporter, who established a 100-bed hospital in Agra, India. Mangalick is from Agra (the home of the Taj Mahal), but has spent the last 21 years in Minnesota. He established the hospital out of gratitude for his good fortune in life. A number of local physicians have traveled to Agra to work in the hospital for anywhere from one to 12 weeks. Mangalick is especially interested in volunteers who can train health care workers in Agra. For details call 612/724-7244.
- **The AMA's Office of International Medicine** steers physicians to organizations that need volunteers. Physicians who call the American Medical Association will receive tips on where to call as well as reprints from the June 27, 1990, issue of *JAMA*, which reports on physician service opportunities abroad. For more information call 312/464-4386.
- **The National Council for International Health** (NCIH) is probably the best bet for one-stop shopping. NCIH publishes "U.S. Based Agencies Involved in International Health," the most comprehensive directory available on the subject. NCIH also publishes a monthly newsletter that tracks federal legislation and policy on international health care, and it publishes a monthly job bulletin, *Career Network*, for people interested in the most current job openings for volunteers. Call 202/833-5900 for more information.

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2. Guttormson NL, Bubrick MP. Mortality from ischemic colitis. Dis Colon & Rectum, to be published.
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Lyme Disease: A Clinical Review

Joseph Duffy, M.D.

ABSTRACT

Lyme disease is caused by the spirochete *Borrelia burgdorferi,* which is transmitted primarily by *Ixodes dammini* ticks in the Northeast and Upper Midwest, by *Ixodes pacificus* in Western states, and by *Ixodes ricinus* in Europe. Lyme disease can affect the skin, nervous system, heart, eyes, and joints, and is diagnosed in patients with these characteristic clinical features: exposure to an endemic area and usually a positive serologic test for *B. burgorferi* six or more weeks after infection. Full recovery is possible with early diagnosis and treatment.

Lyme disease was first recognized as a clinical identity in the United States after a 1970 report of an infected Wisconsin physician.[1] However, a recent study by Persing using state-of-the-art DNA methodology indicates Lyme disease is actually of greater vintage than previously thought. Spirochete-specific DNA can be traced back to the 1940s in archival specimens retrieved from endemic regions of New York state.[2] This suggests that Lyme disease is of historical as well as current medical significance in some geographic areas.

Epidemiology

Today Lyme disease is a global illness. Cases have been recognized on six continents, the exception being Antarctica. The disease has been diagnosed in Western and Eastern Europe,[3,4] Asian countries,[5] and Australia.[6] Although it occurs in Canada,[7] the majority of North American cases have been identified in the United States.

In the United States there are three major geographic foci of infection: the Northeastern Coastal states from Massachusetts to Virginia, the Upper Midwestern states of Minnesota and Wisconsin, and portions of four Western states, including California, Oregon, Nevada, and Utah.[8,9] Regional incidence rates are highest in Northeastern states, intermediate in Upper Midwestern and Western states, and lowest in the Mountain States. The cases reported to the Centers for Disease Control in 1987 and 1988 were acquired in 43 states. The number of reported Lyme disease cases has risen each year, with 220 cases recorded in 1980 and 4,507 in 1988.[10]

Field studies in the United States disclosed the primary vector for Lyme disease as the deer tick, *Ixodes dammini,*[8] or related Ixodid ticks.[9,11] Lyme disease currently is the most common vector-borne infection in the United States. Dissemination has been rapid because migratory birds have carried *I. dammini* to deer habitats in distant locations. Cases have been most numerous where deer are abundant; risk of infection directly correlates with the proximity of humans to deer.[12] Conversely, removal of deer from tick-infested areas causes a decline in the tick population and Lyme disease cases because adult ticks become unable to reproduce.[13] Infection may be transmitted infrequently by vectors other than *I. dammini.*

Individuals of both sexes and all ages have acquired Lyme disease. Ninety-two percent of cases occur in Caucasians. Age-specific incidence rates are highest for children less than 15 years old.[14] Most serologically confirmed cases are diagnosed between May and August, with peak incidence in June and July in the Northeast and Upper Great Plains. In the Pacific region, one-third of infections are contracted between January and May. This seasonal predilection for infection can be explained by the two-year life cycle of the deer tick.[15]

Vectors and Hosts

The principal vectors for Lyme disease in the United States are small hard ticks of the *I. ricinus* complex. Outbreaks of infection coincide primarily with the distribution of *I. dammini* in the Northeast and Upper Midwest and *I. pacificus* in Western states.[8,9] *I. scapularis* in the Southern United States currently holds a weak position among possible vectors. *I. ricinus,* closely related to the American species, is the principal vector in Europe.[9] The ability of

*Two dog ticks (*Dermacentor variabilis*) and a deer tick (*Ixodes dammini*), pictured with the head of a pin for size comparison.**

other Ixodid ticks elsewhere in the world to infect humans is uncertain. Transmission of *B. burgdorferi* to humans by *Amblyomma americanum* (the Lone Star tick),[16] *Dermacentor variabilis* (the dog tick),[17] and some flying insects appears to be uncommon.[18]

There are three motile stages in the life cycle of ticks in the *I. ricinus* complex—larva, nymph, and adult. A tick feeds once during each stage. Larvae and nymphs feed in spring and summer, and adult ticks appear during late fall,[19] when they infest white-tailed deer.[20] All tick stages except eggs are potentially infectious, with nymphs posing the greatest threat. Humans serve only as incidental hosts.

Duration of tick-host attachment correlates with the likelihood of infection being transmitted to rodents in laboratory studies. Infection is rare when ticks feed less than 24 hours but is almost universal after 72 hours.[21]

Causative Organism

In 1981, Burgdorfer discovered a new spirochete of the genus Borrelia in *I. dammini* that had been collected in an area of New York endemic for Lyme disease.[22] The spirochete was named *Borrelia burgdorferi* in 1984 in honor of Burgdorfer's discovery. Cell walls of *B. burgdorferi* contain several antigenic proteins. The first to be recognized serologically after infection is the 41-kd flagellar protein.[23] Two other antigens of current interest are outer surface proteins A (31-kd) and B (34-kd). Antibody formation to either or both of these occurs late and is typical of chronic infection.

DNA in *B. burgdorferi* is present in chromosomes and plasmids. Characterization of genomic DNA discloses genotypic heterogeneity among American and European isolates; however, the relevance of this dissimilarity to clinical syndromes is unknown. Immunoblot studies of DNA in virulent and avirulent strains yield comparable findings, thus providing no clues as to why some organisms are pathogenic and others are not.[24] Schwan notes loss of infectivity concurrent with disappearance of plasmids, indicating genes encoding infectivity factors exist in plasmid DNA.[25]

Clinical Features

Lyme disease was recognized as a serious multi-system disorder soon after its discovery. Three stages have been described,[26,27] but overlap is common and symptoms and signs vary with time and among individuals. Highlights of these three stages are summarized here.

Stage I

Lyme disease begins with inoculation of *B. burgdorferi* by *I. dammini* [8] or related ticks[9,11] in most cases. Actual infection following a bite appears to be low. In a Connecticut study, the likelihood of acquiring Lyme disease following a tick bite was about 3%.[28]

A macular or papular lesion appears after a bite and expands with a flat or raised, red ring-like border and a fading center. This lesion, erythema migrans, is characteristic of Lyme disease[26] and occurs in 60% to 86% of patients. It may occur alone or with systemic symptoms. A flu-like syndrome, sometimes with disabling fatigue, accompanies spirochetal dissemination days to weeks after inoculation in some individuals.

Stage II

The nervous system, heart, eyes, and skin are targets in second-stage disease, which follows a variable latent period after stage I.

Nervous system: About 15% of patients develop central nervous system and/or peripheral nervous system disorders weeks to several months after onset of erythema migrans. The disorders typically affect more than one portion of the nervous system. Headache, nausea, vomiting, irritability, and stiff neck are common and indicative of meningitis.[29,30]

About 50% of patients have a unilateral peripheral seventh nerve palsy, although it can be bilateral in more than one-third of cases. Peripheral neuropathy is a common feature. Up to two-thirds of patients exhibit subtle manifestations of encephalitis.[30]

Lumbar puncture results typically include a normal opening pressure with slightly cloudy spinal fluid and a lymphocytic pleocytosis. The degree of pleocytosis correlates poorly with severity or neurologic syndrome. Protein level is moderately elevated. Glucose values are normal.[29,30] *B. burgdorferi* has been recovered infrequently from cerebrospinal fluid.

Heart: Cardiac abnormalities occur in about 8% of patients.[31] Fifty-two cases of Lyme carditis have been reported.[32] Syncope, dizziness, shortness of breath, and substernal pain are common but nonspecific symptoms. Conduction disturbances, gallop rhythms, and pericardial friction rubs, alone or in combination, are typical. Heart valves are spared.[31,33] Electrocardiographic abnormalities include variable degrees of atrioventricular block in almost 90% of patients.[31,32]

Endomyocardial biopsy[34] and postmortem specimens[35] show lymphocytic and plasma cell exudates, myocyte necrosis, and spirochetal forms resembling *B. burgdorferi*. Cultivation of *B. burgdorferi* from endomyocardial biopsy specimens of a patient with chronic dilated cardiomyopathy suggests this organism may occasionally cause chronic cardiac disease.[36]

Eye: *B. burgdorferi* may infect the eye. Ocular signs include conjunctivitis,[26] keratitis,[37] iritis,[38] choroiditis with retinal detachment,[39] optic neuropathy,[40] and panophthalmitis.[38]

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Stage III

Arthritis is the most widely appreciated feature of persistent infection, but late neurologic complications have been reported as well.

Arthritis: Approximately 60% of untreated patients develop monarticular or asymmetric pauciarticular arthritis, primarily affecting large joints in a pattern reminiscent of Reiter's syndrome[41] but not rheumatoid arthritis. Synovitis of the knee occurs at some time in most patients. Swelling may be intense and pain minimal. Popliteal cysts may appear acutely with rupture or dissection. Sausage digits and attachment pain typical of enthesopathy are present in some patients. Chronic arthritis develops in about 10%, beginning a mean of 12 months after disease onset. Severe erosive damage appears to be rare.[42]

Serum rheumatoid factor and antinuclear antibody tests are negative by routine laboratory methods.

Central nervous system: In the United States and Europe, some patients develop serious, late central nervous system disorders months to years after infection. These can be confused with viral encephalitis, psychiatric disorders, multiple sclerosis, or central nervous system neoplasms.[43-45]

Pathogenesis

Stage I

After *B. burgdorferi* inoculation, a migratory erythema harboring the spirochete in the leading edge of the lesion appears in the majority. In about 20%, infection is contained in the skin. In others, spirochetal dissemination through blood and lymph causes secondary erythema migrans lesions and/or an influenza-like illness.[26] *B. burgdorferi* also has been recovered from blood at this stage.[46] These observations and the effectiveness of antibiotic therapy indicate the infection itself is the major pathogenic mechanism in early disease.

Stage II

The pathogenesis of second-stage Lyme disease is more complex. Infection obviously can persist because *B. burgdorferi* has been recovered from spinal fluid,[47] and spirochetes have been seen in cardiac specimens[34] and ocular vitreous humor[38] weeks or months after disease onset. These organisms most likely persist beyond stage I illness by escaping immune surveillance.

Besides persistent infection, specific cellular and humoral immune reactivities are detectable in spinal fluid.[48-50] Some may be pathogenic. There are no data, however, confirming autoreactivity in non-neurologic stage II manifestations.

Stage III

Evidence for persistent infection in third-stage disease includes further evolution of the humoral immune response,[51] demonstration of spirochetes in synovium after two years,[52] and recovery of *B. burgdorferi* from synovial fluid in a patient with chronic synovitis.[53]

Host immunogenetics may influence the predisposition to develop chronic arthritis. Steere recently described a strong association between chronic Lyme arthritis and the class II major histocompatibility antigen HLA-DR4, sometimes in combination with DR2. This HLA association is typical of chronic rheumatoid arthritis [54]

Information to date on the pathogenesis of third-stage neurologic disease is meager and inconclusive.

Diagnosis

The diagnosis of Lyme disease must consider patient exposure to an endemic area, one or more *objective* clinical features, and serologic test results indicative of *B. burgdorferi* infection.

Laboratory Features

Although *B. burgdorferi* grows well in vitro, cultures from human specimens are seldom positive.[46,47] Visualization and identification of tissue-bound organisms are infrequent because there are few organisms and identification requires specialized laboratory techniques.[55]

Serologic tests to detect specific antibodies to *B. burgdorferi* are the most useful clinical laboratory tools for diagnosis. In early infection, the diagnosis of Lyme disease is purely clinical, and a positive serologic test is, at best, confirmatory. A negative test result does not exclude the diagnosis because sensitivity is low during early-stage disease.[56,57] With a presumptive or definite clinical diagnosis and a negative test, treatment should be administered without laboratory confirmation. Almost everyone in a later stage of infection should have a positive Lyme serology on the first specimen submitted.[56] If not, the clinical diagnosis should be questioned.

The enzyme-linked immunosorbent assay (ELISA) currently is the preferred diagnostic screening test because it has better sensitivity and specificity at all stages.[57,58] During the first weeks of infection, however, even this method lacks desired sensitivity, with only about 40% to 60% of cases testing positive. Berardi has described an exquisitely sensitive antibody-capture enzyme immunoassay capable of detecting antibody to *B. burgdorferi* in 93% of patients within four weeks of infection.[59] Although cumbersome, this method may be an important advance in serologic testing.

The availability of commercial assay kits now makes testing possible in physician offices as well as clinical laboratories. Evaluation of six commercial assays in our clinical immunology laboratory revealed a 95% to 100% antibody detection rate in late-stage Lyme disease sera; specificities ranged from 82% to 100%. These kits may serve as useful screening assays, but confirmation by a second test is essential (unpublished observations, Katzmann JA). Spirochetal antigen detection in urine rather than antibody detection in serum has been under investigation. It could potentially assist with early diagnosis prior to detection of specific antibody in serum.[60] The product literature of one manufacturer, however, cautions the user that this is not a validated diagnostic method. The polymerase chain reaction utilizes DNA-based methodology to detect and to amplify genomic *B. burgdorferi* DNA in body fluids and tissues. It is a highly sensitive and specific technique. Although still investigational, it may prove useful to detect spirochetturia if the experience of recent studies can be applied to the clinical setting.[61] Rosa and Schwan also report that polymerase-chain-reaction methodology might facilitate diagnosis by utilizing tissue specimens because the technique has enough sensitivity to detect fewer than five copies of the *B. burgdorferi* genome.[62]

All serologic tests may give false-negative and false-positive results. Most false-negative results occur in early illness. A recent report describing seronegativity in late-stage Lyme disease used a T-cell blastogenesis assay in lieu of antibody detection to diagnose infection.[63] Further studies are underway to validate this report and to ascertain the prevalence of such cases. False-positive serologic tests occur because of cross-reactivity with other spirochetal organisms (particularly syphilis) and polyclonal B cell activation in infectious mononucleosis and rarely in autoimmune diseases.[64,65] Immunoblotting results have been useful in our experience for separating false-positive results from those due to actual infection.

Serologic testing contributes significantly to diagnosis, but, unfortunately, it often is used indiscriminately. It should never serve as the sole basis for diagnosis or institution of antibiotic therapy.[64]

Treatment

Prevention

Theoretically, prevention can be directed at three levels: 1) wooded deer habitats, 2) tick life cycle, and 3) human behavior. Education and modification of human behavior are the most practical solutions at this time.

Accurate tick identification is important, particularly in highly endemic areas where Lyme disease is a menace from spring through fall. *I. dammini* are small, reddish-brown to dark-brown ticks, quite different from *Dermacentor variabilis*, the common dog tick. Simple but effective measures include avoiding tick-infested woodlands and deer habitats; wearing light-colored clothing with long sleeves, high socks, and pants tucked into boots; and inspecting clothing, skin, and household pets for ticks. Attached ticks should be removed promptly with tweezers or forceps.[66] Two types of protective sprays are available. One contains deet, a common mosquito repellent, and one includes permethrin, which is acaracidal. Repellents containing 30% deet are about 90% effective and may be applied safely to clothing and skin in adults. Permethrin kills ticks on contact and is 100% effective against all stages of *I. dammini*.[67] It should be used only on clothing, never on skin.

Development of a Lyme disease vaccine would improve prevention, particularly in endemic areas. Experience has shown that specific humoral immune responses are not curative after infection. Recent research, however, reveals that passive antibody administration or active immunization with *B. burgdorferi* lysates before exposure to live organisms prevents systemic infection,[68] including Lyme arthritis.[69] Further refinements using a mouse model show that administration of a specific *B. burgdorferi* protein, the 31-kd outer surface protein A (OspA), may serve as a suitable vaccine candidate.[70] A dog vaccine is available in several states, but data on its efficacy are scanty. No vaccine trials are underway in humans.

Drug therapy

All symptomatic individuals with presumptive or confirmed Lyme disease deserve antibiotic treatment. There are no data to validate a need to treat all tick-bite cases or to treat healthy, asymptomatic persons with positive Lyme serology. In endemic areas where heightened awareness or Lyme hysteria prevail, community pressures may compel some physicians to prescribe antibiotics prophylactically.

The two major goals of early antibiotic therapy are to shorten the duration of erythema migrans and associated systemic manifestations and to prevent late complications. Recent reviews describe the various antibiotic regimens for all stages of Lyme disease.[71,72] Refer to these for therapy details.

Finally, when faced with patients suspected of having Lyme disease, the following caveats are worth keeping in mind:

- Most patients seeing a physician because of Lyme disease, particularly at referral institutions, do not have it;[73]
- Phyisicans should never treat a patient for *symptoms alone*, no matter how strong the patient's convictions about the diagnosis;
- There is no justification for empirical therapy in individuals with nonspecific complaints, such as fatigue and myalgias, and a weakly positive antibody test for *B. burgdorferi*.
- Positive Lyme antibody tests should be assessed further with a serologic test for syphilis;
- The need for multiple courses of antibiotic therapy for putative treatment failures should prompt reappraisal of the diagnosis. There is a real danger of creating a "Lyme disease cripple."

Summary

Lyme disease is a complex multisystem disorder caused by a spirochete, *B. burgdorferi*, which is transmitted chiefly by *I. dammini* and *pacificus* ticks in the United States and *I. ricinis* in Europe. It is a disease with cutaneous manifestations and involves the nervous system, heart, eyes, and joints in variable combinations. Diagnosis is based on patient exposure to an area endemic to the tick plus one or more characteristic clinical features and a positive serologic test for *B. burgdorferi* infection in the majority of cases with illness lasting longer than four to six weeks. Although infection is the primary cause, immune and immunogenetic factors almost certainly participate in some manifestations. Prompt diagnosis and treatment are important for full recovery, but physicians should not succumb to the temptation to provide treatment without convincing objective evidence of disease. **MM**

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Giant Epignathus

A Case Report

David W. Todd, M.D., Henry J. Votava, M.D., Ph.D., Robert L. Telander, M.D., and Craig T. Shoemaker, M.D.

ABSTRACT

We report the successful treatment of a 2.8 kg female infant born with a giant epignathus, and we present our current prenatal and neonatal recommendations for managing this problem. We recommend that the delivery be done by cesarean section, that an adjacent operating room be ready for the baby, and that a neonatologist, anesthesiologist, and pediatric surgeon be standing by.

The term epignathus now commonly applies to a teratoma protruding from a newborn's mouth.[1] The survival of these otherwise normal children has been very low.[2] We discuss the perinatal, neonatal, and operative care necessary to improve survival, as evidenced by the case presented.

Case Report

A 2.8 kg female infant was born to a gravida-III, para-II, woman. The pregnancy was complicated by polyhydramnios, and the infant was delivered vaginally with a cephalic presentation.[†] The infant had an Apgar score of 9 at one minute and at five minutes.

The infant was born with a large mass protruding through her oral cavity (Figures 1 and 2), and she was transported to the intensive-care nursery, where she was intubated and placed on mechanical ventilation for airway maintenance. The clinical diagnosis at this time was epignathus. Subsequent cardiac and ophthalmic evaluations were normal. A computerized axial tomography scan of the head and mass showed some bony structures inside the tumor, but no brain abnormalities were noted.

On day 2, the infant was taken to surgery, and the mass was removed. We were able to rapidly extubate the infant, but she continued to have difficulty with suck-and-swallow coordination. Gastroesophageal reflux was diagnosed after contrast radiology ruled out esophageal atresia.

The infant required one year on a device to properly position and elevate her head. At four weeks, the infant was sent home, where she was monitored for apnea for four months. Because she had difficulty sucking, the infant was fed by orogastric tube until her palate was surgically repaired at 3 months of age. Nipple feeding improved rapidly after the palatal repair, which we performed using a V-Y pushback technique.

The infant did well over the next two years with only infrequent ear infections. By age 2, the child was developmentally normal. She had a moderate speech delay, but performed satisfactorily on intelligence tests.

Pathology

The tumor specimen submitted for pathology examination measured 11x7x8 cm and consisted of a central 5 cm bony mass within cartilaginous lobular connective tissue. Sections cut 6 microns thick and stained with H & E showed vascular fibrous connective tissue with areas of neuroglial differentiation that were stained with the glial fibrillary acidic protein (GFAP), a specific marker for astrocytes. A neuron-specific enolase (NSE) stain was also applied, and multifocal areas within the tumor showed NSE positivity, indicating neuron differentiation. Positive stains for GFAP and NSE are strong indicators for brain tissue in the teratoma, and author HJV diagnosed brain tissue to be present.

Discussion

We assume the common definition of an epignathus as a teratoma of the mouth in a newborn. Most epignathi, which occur primarily in female infants, are attached to the base of the skull in the posterior nasopharynx near the site of Rathke's pouch.[2] Associated anomalies are rare.[3] No case of malignancy has been reported in nasopharyngeal teratomas, so aggressive perinatal care is always warranted.

Hatzihaberis states that "only a few of these tumors have been removed successfully, and most of the children have died shortly after birth."[3] Zakaria[1] also states that survival of children with these basicranial teratomas is rare, with only three recorded survivors up to 1970.

[†] The delivery, performed at another hospital, was vaginal because the infant was not diagnosed prenatally to have the epignathus.

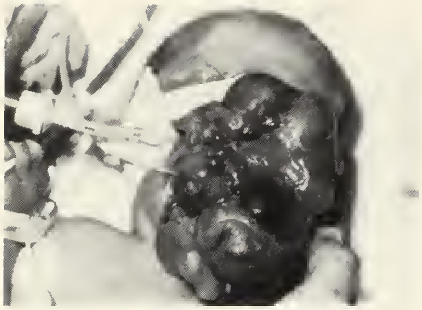

Figure l—Appearance of the epignathus at birth.

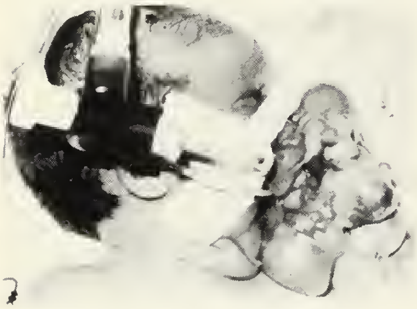

Figure 2—Lateral view of the epignathus.

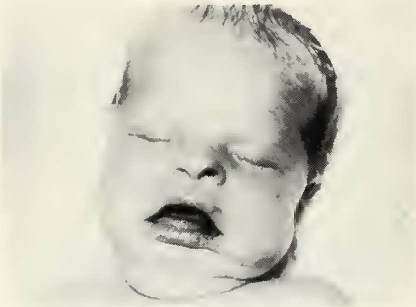

Figure 3—Postoperative appearance—note dilated nostril

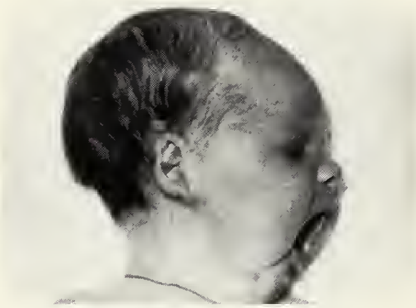

Figure 4—Lateral postoperative view.

The tumor he describes was attached to the hard palate and contained brain tissue, although brain tissue is rarely present in these tumors.

Maternal hydramnios frequently occurs in these cases and indicates the need for maternal ultrasound. The hydramnios is probably due to a swallowing impairment in the fetus caused by the epignathus, which maternal ultrasound exam will usually reveal.

If an epignathus is present, Chervenak et al.[4] recommend weekly amniocentesis beginning in the 36th week of gestation to assess fetal lung maturity. Because these tumors can grow rapidly in utero, he urges early delivery once fetal lung maturity is documented. In addition, Chervenak recommends active measures, such as tocolytic therapy and therapeutic amniocentesis, to relieve hydramnios and to postpone delivery when pulmonary immaturity is present.

We recommend that delivery of a baby with prenatally diagnosed epignathus be done by cesarean section in the operating room. An adjoining operating room should be reserved for the baby's care. We also recommend that a neonatologist, anesthesiologist, and pediatric surgeon stand by to provide perinatal care. Establishing an airway with an endotracheal tube or tracheostomy for newborns with this diagnosis can best be done under controlled conditions in the operating room just after birth. We also use this double OR setup for the care of newborns with prenatally diagnosed gastroschisis or omphalocele. An MRI or CT scan can subsequently be used to rule out midline CNS lesions, encephalocele, or intracranial tumor.

F. Gonzalez-Crussi[5] lists these factors as determining prognosis: 1) the age of presentation, 2) the nature of the technical problems associated with removal of a neoplasm situated in an area of difficult access, 3) the associated anomalies and complications, and 4) the nature of the tissue composing the teratoma.

As others have noted, basicranial teratomas often have a very narrow stalk or origin[6] near the site of Rathke's pouch in the nasopharynx. (This is associated with a cleft palate.)

In the case we present, we removed the tumor with a controlled morcellation technique, utilizing the oral approach, and we carefully cauterized the site of origin. Postoperatively, the stretched tissue is apparent (Figures 3 and 4) but will gradually self-correct and will not require additional surgery. The associated cleft palate can be repaired when the infant is 3 to 4 months old.

Summary

The successful treatment of a giant epignathus requires careful prenatal, perinatal, anesthetic, and operative care. A multidisciplinary medical-management protocol provides the optimum chance for satisfactory outcome in cases of prenatally diagnosed surgical lesions. MM

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CPR Policy in Nursing Homes

Timothy J. Crimmins, M.D.

Recent Office of Health Facility Complaints (OHFC) citations of nursing homes for failure to institute cardiopulmonary resuscitation have resulted in renewed interest in the appropriateness of providing CPR to patients who suffer cardiac arrest in long-term care facilities.

In this issue of *Minnesota Medicine* (page 31), Drs. Steven Miles, John Driscoll, and Marty McCusker describe a case in which a long-term care facility was cited for failing to comply with its own institutional policy. These authors present data from Minnesota (and confirmed elsewhere[1]) suggesting that patients with multiple, serious, chronic conditions or terminal illness have little chance of surviving CPR. Conversely, healthy elderly have as high as a 30 percent out-of-hospital resuscitation rate following witnessed cardiac arrest. The authors outline relevant state law and offer recommendations for institutional CPR policies.

Andrea M. Walsh of the Bureau of Health Resources of the Minnesota Department of Health responds (page 33) by saying that clinical policy is the purview of the health professions, not the Health Department, and she invites the Minnesota Medical Association (MMA) and its members to clarify the role of CPR in nursing homes. The Health Department's Office of Health Facility Complaints, she states, enforces the standards developed by the medical profession and others.

As discussion of these issues continues, nursing home medical directors may find the following guidelines helpful in developing resuscitation policies for their institutions:

- Provisions that are consistent with patients' interests and values[2] should be made in order to improve the quality of advanced-care planning for the institutionalized elderly.
- Hospice or terminal care plans should have provisions for relief of suffering and management of acute symptoms.

> "The responsibility for institutional policies lies with the nursing home medical director and administrator."

- The practice of writing specific physician orders to withhold CPR (i.e., do-not-resuscitate orders) should be continued. Guidance should be provided to the institution's staff to ensure that patients with DNR orders still have full access to acute medical care as indicated[3] and that any acute problems they experience will be assessed promptly.
- At a minimum, fully informed disclosure should be provided to patients when the DNR order is written. MMA guidelines recommend informed consent, whereas American Medical Association policy calls for informed disclosure when there is reasonable certainty that CPR would be futile.[4] The discussion and medical indications regarding the writing of a DNR order should be documented.
- Mechanisms within the community must exist to ensure that DNR orders are conveyed to ambulance providers.[5,6] Nursing staff should have the skills to assess a patient and should understand the appropriate indications for calling an ambulance to a nursing home (in response to trauma, choking, respiratory distress, or shock, for example).
- CPR should be provided in accordance with the standards and guidelines adopted by the American Heart Association: "When a physician-patient relationship exists, the physician has an obligation to initiate CPR when medically indicated, and when nurses or paramedical persons are functioning in their official capacities, they have a positive obligation to initiate CPR when it is indicated."[7]
- Guidelines should be adopted that are similar to the Department of Human Services' guidelines, which call for providing CPR to all residents except those with DNR orders and those who show no signs of life following an unwitnessed cardiac arrest.
- The definition of and indications for writing a DNI (do-not-intubate) order should be further clarified. The Minnesota Medical Association Committee on Ethics and Medical/Legal Affairs is currently addressing this issue.

The responsibility for institutional policies lies with the nursing home medical director and administrator. Recent OHFC citations may provide impetus to ensure that these policies represent good medical practice, are current, and are understood by nursing staff. MM

Timothy Crimmins is an emergency physician at Hennepin County Medical Center and chair of the Minnesota Medical Association Committee on Ethics and Medical/Legal Affairs.

Crimmins' References to page 35.

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CPR in Nursing Homes

Policy and Clinical Realities

Steven H. Miles, M.D., John Driscoll, M.D., and Marty McCusker, M.D.

A 66-year-old man was admitted to a nursing home with advanced disseminated colon cancer. Clearly at the end stages of terminal illness, he weighed only 70 pounds, had two decubitus ulcers, and required an intravenous line and a urinary catheter. He was unable to communicate and was on oxygen for respiratory failure. He was agitated and often dislodged the oxygen mask over his permanent tracheostomy.

The hospital nurse told the nursing home's director of nursing that the patient was DNR (do not resuscitate) and was being admitted for terminal care. The director of nursing informed the nursing home staff of this plan. The patient's physician believed that CPR would be inappropriate, and the patient's family believed he was dying and would not want CPR. However, the physician did not talk to the family and did not write a DNR order. The next day, the patient fell and sustained a small skin tear. The family was upset about the fall and reported it to the Office of Health Facility Complaints (OHFC).

Two days after his admission, an experienced long-term care nurse suctioned secretions from the patient's lungs, repositioned him, replaced his oxygen cannula over his tracheostomy, and recorded his vital signs. She then took a break. Ten minutes later, a nursing assistant told her that the patient had suddenly died. The nurse confirmed the death at the bedside and called the physician. It never occurred to her to begin CPR because it had never been done or encouraged for inpatient deaths at the facility.

Six months after the death, the OHFC investigator who was following up on the complaint about the fall noticed that CPR was not done. The nursing home's DNR policy, modeled on a policy developed for hospitals, says that in the absence of a DNR order, CPR must be performed. Because the nurse did not perform CPR, a finding of substantiated neglect was issued in accordance with Minnesota's nursing home rules for adequate care (Minn. R. 4655.6400, subp. 2).

> "State policy does not dictate the automatic, universal provision of CPR in nursing homes."

Five months later, the nurse learned that the Minnesota Board of Nursing was investigating the case to determine whether "she failed or was unable to perform practical nursing" or whether she had "failed to conform to minimal standards of acceptable and prevailing nursing practice" or had "engaged in unethical conduct."

A hearing was set for six months later. The nursing home did not provide the nurse with a lawyer and distanced itself from her actions. The nursing board's questioning focused on the nurse's bureaucratic noncompliance with the facility's written policy mandating CPR for cardiac arrest in the absence of a DNR order. The board did not accept the nurse's contention that the automatic provision of CPR for this patient would not have been "appropriate medical care ... based on individual needs" (Minn. Stat. Ann. § 144.651, subd. 6), would not have followed a "personalized plan of daily care based on the nature of illness" (Minn. R. 4655.6, subp. 2), and would not have been care "based on individual needs" (Minn. R. 4655.6400, subp. 1), even though the latter rule was the basis for the OHFC citation.

The board did not allow information to be presented on the prevalence of CPR in long-term care, its outcomes, or the accuracy of a bedside prediction of CPR futility. Nor did it accept evidence that the OHFC had stopped citing this kind of event as neglect. The board concluded that the nurse "admitted the allegations were true," but it dismissed the citation. The board told the nurse that it would reconsider the matter if it received any similar allegations in the future, and it warned her to document her assessments more completely. This experience prompted the nurse, who had seven years' experience in long-term care nursing, to leave the field.

Discussion

From a policy perspective, this case is about the proper response to an unwitnessed death of a terminally ill patient without a DNR order. From a policy perspective, this story illustrates a worst-case scenario of professionals and facilities caught up in an inconsistent, unclear, and changing set of public policies.

This paper reviews problems related to the duty to perform cardiopulmonary resuscitation in the instance where it will likely be futile and a DNR order has not been written. We begin with a clinical review of resuscitation outcomes for disabled elderly in long-term care facilities and clinical practices in Minnesota nursing homes. We then review state policies regarding the provision or withholding of cardiopulmonary resuscitation and review enforcement patterns of the Office of Health Facility Complaints. Finally, we recommend what facilities can do to comply with state policy and provide good clinical care.

Resuscitation Outcomes in the Disabled Elderly

A substantial body of research shows that few disabled elderly survive CPR to be discharged from a hospital. Although 30 to 50 percent survive a short time following CPR, few survive to discharge. Outcomes for the healthy elderly (i.e., those who are not in care facilities and experience acute myocardial infarction) are comparable to other hospital patient outcomes: one out of five or six survive to discharge.[1-4] Older persons who are more ill have worse survival rates, ranging from 0 to 5 percent.[5-7]

Data about out-of-hospital cardiac arrests are more difficult to analyze. Overall, about 10 percent of *healthy* elderly with witnessed out-of-hospital arrests can survive CPR and be discharged. Survival of persons with witnessed arrest can be as high as 15 to 30 percent.[8-10] However, outcomes for *all* elderly with out-of-hospital arrests, including residents of long-term care facilities, are much worse—1 to 2 percent survive, and many become seriously impaired or survive for a very short time.[7,11,12] Bachman found similar results in rural Minnesota.[13]

DNR/CPR Practices and Outcomes in Minnesota Nursing Homes

The prevalence of DNR orders in nursing homes is less clear than in hospitals. Numerous studies have found that DNR orders are written on about 15 percent of hospital inpatients, and they precede about 70 percent of inpatient deaths, including half of all intensive-care unit deaths.[14] DNR orders are written on about 25 to 50 percent of nursing home patients[15] and may precede up to 90 percent of nursing home deaths,[16] an estimate confirmed by author SHM's unpublished research in Minnesota.

A substantial number of DNR decisions may be based on a *medical* conclusion that CPR is futile rather than on a *patient's desire* to forgo a potentially effective but unwanted therapy. For example, Meyers' study of Minnesota nursing home residents with DNR orders found that only 27 percent of DNR orders mentioned patient or family involvement in the decision making, even though family members were available in 90 percent of the cases.[15] This is lower than the 82 percent reported in Finucane's nursing home study[17] but is comparable to hospital studies.[6,18]

When these data are combined with SHM's recently collected, unpublished data, the following profile of CPR and DNR practices in Minnesota nursing homes emerges:

- About 11,000 deaths occur in Minnesota nursing homes each year. From 70 to 90 percent of deaths (8,000 to 10,000) in Minnesota nursing homes involve residents with DNR orders.
- About 10 to 30 percent of deaths (1,000 to 3,300) in Minnesota nursing homes involve residents without DNR orders. It is not known what percentage of these are unobserved deaths. CPR is infrequently and ineffectively used for this group.
- About 70 to 90 percent of residents (700 to 3,000) without DNR orders will be pronounced dead without receiving CPR because a nurse judges that the death is expected or determines that the patient is dead.
- About 100 to 1,000 (10 to 30 percent) will receive CPR (with an efficacy of 0 to 2 percent).

Thus, only about 0 to 20 Minnesota nursing home residents survive CPR each year, and all of them need long-term care. (All of these are among the subgroup of residents with observed arrests.) About one-third have substantial additional disabilities after CPR, and almost all die sometime during the ensuing six months.

Several policy conclusions can be drawn from these data. First, although standing orders for CPR are often considered standard care in nursing homes, it is not realistic, given current clinical patterns, for the OHFC to enforce a standard that individual CPR or DNR directives precede all deaths. The state could encourage, as the new OBRA regulations do, medical professionals in nursing homes to increase substantially the use of advance treatment plans. Second, universal standing orders for CPR in the absence of DNR orders are inappropriate because many elderly residents will not survive after CPR. We can conclude that these individuals are in the irreversible process of dying. In addition, state policy mandates individualized treatment plans, not universal CPR orders. Third, because common practice and reasonable medical judgment do not support the provision of CPR for many non-DNR residents with cardiac arrest, forgoing CPR in the absence of a DNR order is insufficient evidence of neglect. Finally, because several thousand residents without DNR orders suffer cardiac arrests or die in Minnesota nursing homes each year, and because nursing home providers are uncertain about legal and policy standards, state policy must be clarified.

State Policies Relevant to CPR in Nursing Homes[†]

These clinical realities exist in a legal and regulatory milieu shaped by state policy. A review of state policy suggests that it can encompass these realities without being modified.

Minnesota's Vulnerable Adults Act (Minn. Stat. Ann. § 626.557, subd. 2e, 1-2) defines neglect as "failure by a caretaker to provide a vulnerable adult with necessary ... health care" or "the absence or likelihood of absence of ... health care."

[†] We have made no attempt to list the numerous professional standards that pertain to the provision of CPR and DNR. Such standards can be taken as evidence of a reasonable medical practice or as describing a medical duty. Professional standards by the American Medical Association, the American College of Physicians, the Minnesota Medical Association, the Joint Commission for the Accreditation of Health Care Facilities, academic groups (such as the Hastings Center), and national consensus standards for the provision of cardiopulmonary resuscitation affirm Minnesota policy with respect to permitting and promoting advance planning with regard to CPR and DNR decisions based on the patient's medical condition and values. Medical ethics groups and the American Medical Association find that there is no medical duty to provide futile therapies.

State law (Minn. Stat. Ann. § 144A.04, subd. 9) says that nursing homes must at all times have one facility staff member who is trained and recently certified to perform CPR.

According to the state's Adult Health Care Decisions Act (Minn. Stat. Ann. § 145B.03, subd. 1), "a competent adult may make a declaration of ... instructions [including] consent or refusal of any health care, treatment, service, [or] procedure." It goes on to say (§ 145B.12, subd. 1) that "if an individual has not executed ... a declaration ... a presumption is not created with respect to the appropriate health care to be provided."

Minnesota's Patients Bill of Rights (Minn. Stat. Ann. § 144.651) says patients have a right to "appropriate medical and personal care based on individual needs ... to enable residents to achieve their highest level of physical and mental functioning" (subd. 6), a right to "complete and current information about diagnosis, treatment, alternatives, risks, and prognosis" (subd. 9), a right to "participate in the planning of their health care" (subd. 10), and the right to "refuse" treatment (subd. 12).

Several rules require individualized treatment plans and, therefore, seem to suggest that humane and nuanced standing orders must be developed. Minnesota nursing home rules require that a care plan be established, implemented, and periodically reviewed (Minn. R. 4655. 5800, subp. 2, H). It also requires a "written ... personalized plan of daily care based on the nature of the illness, treatment prescribed, long- and short-term goals which include the physician's orders, the types of care ... needed, how the plan meets the needs and interest of the patients, what methods are most successful and the modifications necessary to ensure best results," (Minn. R. 4655.6000). "Adequate care" is defined as "nursing care ... based on individual needs," (Minn. R. 4655. 6400, subp. 1).

Finally, the Minnesota Department of Human Services, Resident Facilities Manual Policy No. 6100, (which applies only to state-run facilities) mandates CPR for all patients "not specifically excepted by a physician's signed DNR/DNI order in the patient's/resident's permanent medical record ... unless a patient/resident exhibits no apparent signs of life, or unless a patient's/resident's death is unobserved."

We believe the following conclusions can be drawn from these policies. First, although nursing homes must be capable of providing CPR, state policy does not dictate the automatic, universal provision of CPR in nursing homes. Second, state policy explicitly supports and implicitly requires that physicians and nurses for-

The Health Department's Role in Formulating CPR Policy

Andrea M. Walsh, J.D.

Earlier this year, Dr. Steven Miles released a study about Minnesota policies related to the administration of CPR in nursing homes. After reviewing the study, the Minnesota Department of Health, through the Health Resources Division, established an internal task force to examine the issues raised by Dr. Miles.

His study focuses heavily on evolving views of clinical indications for administering CPR to nursing home residents and questions whether the Health Department's Office of Health Facility Complaints is keeping abreast of changing standards of care. When we began to re-examine our policies and standards, it at once became apparent that before addressing CPR as a clinical issue, the Department of Health first needed to answer a broader question: What should the department's role be in formulating CPR policy?

We reached general consensus on one aspect of our role. We do not believe the Health Department's responsibilities include dictating medical practice. That responsibility belongs to licensing agencies such as the Board of Medical Examiners, to professional bodies such as the Minnesota Medical Association, and to the court system, which in some instances may establish standards.

We believe the Health Department's responsibility is to ensure that the standards established by other appropriate bodies are met within licensed facilities. This is the only context in which the Department of Health becomes involved in the clinical standards of CPR administration.

While not overlooking the clinical aspects of the problem, we are currently concentrating on some other aspects of the CPR issue that we believe are more appropriate subjects of concern for the Department of Health. Should the department require all licensed facilities to have a CPR policy? If so, should we establish requirements or guidelines outlining which issues should be addressed in facility policies? Should facilities be required to conform to their own policies in all cases? Are there ways to reconcile potential conflicts between a facility's policies, a physician's clinical judgment, and a resident's right to self-determination?

We are now actively soliciting outside views on these and other issues. We invite the Minnesota Medical Association and its members to offer their views and perspectives.

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go CPR in instances where it is recognizably futile therapy. Third, facilities are required to set policies (e.g., CPR/DNR policies) to improve patient care (Minn. Stat. Ann. § 626.557, subd. 2e, 1-2), but state policy gives facilities considerable latitude in designing these policies. State policy does not say that only physicians can exempt a patient or nursing home resident from a facility policy that mandates CPR and does not require that all decisions to forgo life-sustaining treatment be implemented through a physician's order. Fourth, state policy encourages advanced planning for CPR but does not require that a specific advance directive be the only way to withhold CPR (Minn. Stat. Ann. § 145B.12). When plans are made, sufficient information must be given to the patient or family to make an informed decision. Standards for informing patients require more than advising the patient or family that CPR is optional; they require communicating relevant information regarding the expected outcome of attempted CPR.

OHFC Enforcement of Nursing Homes' CPR Policies

Despite this policy framework, there is widespread concern in the community that the Office of Health Facility Complaints or the licensing board is citing facilities for failing to perform CPR in the absence of a DNR order. Stories such as the one at the beginning of this article fuel these fears. An examination of the OHFC's record of enforcement, however, shows that it has been holding facilities to their own standards, not to a state requirement.

Author SHM reviewed all the OHFC's investigations from 1988 to 1990 that alleged neglect of nursing home residents with regard to CPR practice. Four of the 10 cases involved decisions to forgo CPR in patients without DNR orders. Of the four, two took place in facilities with policies mandating that CPR be performed in the absence of a DNR order. One was an unwitnessed arrest in a facility that did not specify care of unobserved arrests but mandated CPR for non-DNR patients with witnessed arrests. One was a witnessed arrest in a facility that permitted nurses to use discretion for non-DNR patients with unobserved arrests.

Two of the 10 pertained to nursing home staff decisions to initiate CPR after a delay. In one of these cases, the staff was not required by facility policy to perform CPR but ultimately decided to do so.

> "The intent of Minnesota policy regarding CPR/DNR practices in nursing homes is to foster procedures that promote good clinical practices."

Three cases pertained to the decision to forgo CPR in a patient who had refused the DNR order. One of these involved a patient with a DNI order but no DNR order.

One of the 10 cases pertained to a failure to have both conservators sign a DNR form as required by facility policy.

We found no instance of the OHFC citing a nursing home for failing to perform CPR on a patient who died an unobserved death when the facility's policy permits nursing discretion to forgo CPR. However, OHFC's current enforcement pattern does not clearly communicate its policy on either the *practice* of having nurses make their own decisions not to perform CPR on patients without DNR orders or on *facility policies* permitting nurses to forgo CPR in such circumstances.

A facility policy permitting nurses to withhold CPR in unwitnessed arrests seems to conform to state policy given the low efficacy of such treatment. Witnessed arrests of patients who are known to be dying but who do not have a DNR order present a much more difficult situation. Fortunately, the widespread use of DNR orders has reduced the occurrence of this dilemma.

Conclusion

The OHFC and the Minnesota Department of Health should clarify their interpretation of Minnesota public policy regarding the practice of CPR in nursing homes. This would enable nursing home providers to establish policies and procedures that conform to Minnesota public policy. In the meantime, we conclude that the intent of Minnesota policy regarding CPR/DNR practices in nursing homes is to foster policies and procedures that promote good clinical practices regarding the use of life-sustaining treatments, including CPR, that are consonant with patients' values and with current medical knowledge. These policies and procedures should include:

1. Promoting greater involvement of nursing home physicians, nurses, and social workers in determining individualized treatment plans to withhold or selectively employ life-sustaining treatments, including CPR. Such planning should foster informed decision making focused on the resident's own interests and values. This would include:
   - Preparing advance directives and treatment plans as provided under the Adult Health Care Decisions Act and Patients Bill of Rights.
   - Using physician-written DNR orders.
   - Educating nursing home residents about CPR or other life-sustaining treatments, including informing residents about the risks and prognosis of such treatments, not merely the option to refuse treatments.
   - Adopting procedures to ensure that individualized treatment plans are accurately communicated to ambulance providers.
2. Promoting the competent provision of CPR, when appropriate, to those residents who should receive it. This includes, but is not limited to:
   - Teaching staff proper CPR techniques and procedures for summoning aid from inside and outside the facility.

- Promptly initiating CPR when it must be performed or when a question of whether it should be performed exists.
- Correctly performing CPR.

3. Promoting competent decision making in the event of an unobserved death or cardiac arrest that cannot be successfully treated. This should include designating and empowering on-site professionals to decide that CPR should not be performed or that it should be discontinued. The protocol these professionals follow should define unobserved death or cardiac arrest and clinical situations in which the facility's medical director has concluded that the futility of CPR may be ascertained by an on-site professional. MM

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Buy-in Arrangements

An Associate's View

Todd I. Freeman, J.D., C.P.A.

While professional practices are similar to other closely held businesses, they do have one distinction: professional employees' expectation that they will become owners. In no other industry is this common. A top-level executive of a closely held manufacturing company would never expect to become an equal owner. However, in a medical practice, the only way to recruit and retain quality physicians is to provide the opportunity for ownership.

Therefore, when hiring new physicians, the owners must not only negotiate terms of initial employment, but must also discuss the buy-in arrangement should the associate prove compatible with the practice.

A Square Peg in a Square Hole

Before reviewing the buy-in terms, the associate must determine whether the practice is compatible with his or her style of practicing medicine. This may involve more than just evaluating the owners' style of practice. An associate who likes to spend extra time with patients may not survive in a group that is productivity-driven and sees many patients per day.

Other factors the associate should consider include the group's governance structure and its approach to running the practice. Would the associate be comfortable joining a group that is governed by only one or two members, while the others have no say in management? An analysis of the stock structure (e.g., the existence of voting and non-voting stock) and any agreement provisions relating to management will help make this determination.

A review of the revenue sources and the balance sheet can indicate the group's propensity to expand and invest. New partners may be expected to likewise invest, tying up a substantial amount of their future wealth.

Partner? Thanks, but No Thanks

An organization's structure is more than legal mumbo jumbo. In today's environment, it can be very risky to be part of an entity that does not shield its owners from liability. If the medical practice is organized as a general partnership, admission as a partner would expose the incoming partner to all the practice's liabilities. Those include, but are not limited to, the following:

> "The only way to recruit and retain quality physicians is to provide the opportunity for ownership."

1. Malpractice committed by any of the partners or nursing and technical staff.
2. Employment discrimination and employee relation violations committed by the practice.
3. Personal injury on the practice premises.
4. Damages relating to breach of contract with a hospital, third party-payer, or health plan, committed by anybody in the practice.
5. Damages related to violation of any provision in any lease governing the office or equipment.
6. Medicare and Medicaid penalties.

In a partnership, each partner is liable for 100 percent of these liabilities, and should one of these situations occur, a creditor may pursue all of the partner's assets. A partner's residence may be protected if a bankruptcy filing is made, but most other assets, including pension and profit-sharing plans, may not be exempt.

The alternative to organizing the practice as a partnership is establishing a professional corporation. In a professional corporation, a "partner" is a shareholder, and his or her only exposure is the pro-rata value of assets actually contained in the corporation. However, a shareholder practicing in a professional corporation would still have unlimited liability for his or her own malpractice. In groups that insist on maintaining their partnership status, a new partner may form his or her own professional corporation to become the partner.

Benefits of Ownership

Aside from any perceived security in being a practice owner, the most tangible benefit is the opportunity to share in the profits. Analyzing the legitimacy of the buy-in price is accomplished almost exclusively by analyzing the compensation received under the group's formula. The other major component is the buy-out price when the owner leaves the practice.

Most groups will allocate income using one or more of the following methods:

Production: Some or all of the income is allocated based on each owner's production. It is important to determine the exact method by which the production is calculated. For example, is it determined using billings or receipts? Gross or net income?

Fixed percentages: Some or all of the income may be allocated to the owners equally or on a phased-in percentage. This technique recognizes the efforts of every member as part of a group and discourages competition within the practice.

Seniority: Certain allocations may be made to the founders or to those who have been in the practice for a given number of years.

Management: Owners engaged in management functions may receive separate compensation for performing those duties.

Medical directorships: Owners who serve as medical directors may receive compensation for the position since it reduces total productivity.

Risk pool income: For primary care physician groups that are capitated and participate in risk pools, any net distributions from such risk pools may be allocated separately from other income.

The compensation formula will determine how overhead and other expenses are allocated among the owners. If expenses are subtracted "off the top," then they are subtracted before the above allocations are made.

If some or all of the expenses are taken "below the line," then income allocation is made first. The expenses or overhead are then subtracted to determine the owner's compensation. For example, it is typical for personal benefits, such as pension and profit-sharing contributions, disability insurance premiums, CME travel expenses, and entertainment expenses, to be subtracted from the owner's allocation before paying compensation. This way, one owner's spending habits do not affect the other owners' incomes.

Buy-in Price for the Bricks and Mortar

The "bricks and mortar," or "hard assets," include such items as equipment, furniture, and leasehold improvements. Price allocation for this category is typically done one of two ways. The first method is easily determined and is based on the financial statements' net book value. The book value is determined by taking the original cost of all of the assets and subtracting the depreciation or amortization. The other commonly used method is to base the price on fair market value, which may be determined by agreement or by appraisal. Many companies buy and sell used medical equipment and can provide reasonable appraisals.

For example, say Dr. Jones is buying a one-third interest in a practice that has a hard-asset book value of $200,000 and a debt outstanding to the bank of $110,000. Dr. Jones would pay one-third of $90,000 (i.e., $200,000 less $110,000), or $30,000. Dr. Jones could make the entire payment to the corporation (or partnership) or pay $15,000 to each of the existing two owners. Dr. Jones would receive no deduction for these payments and for tax purposes would have a tax basis of $30,000 in the practice.

Valuation and Purchasing Accounts Receivable

Accounts receivable represent money owed to the practice for services that have been performed and billed. Because accounts receivable represent suspended income, it is possible for the purchasing associate to buy into accounts receivable on a pretax basis. This is accomplished by allocating extra cash (i.e., compensation) to the existing owners and less to the new owner. The amount would not show on the new owner's W-2, so he or she wouldn't pay taxes on it. The existing owners would receive extra income and pay tax accordingly. If the capital gains tax rate drops lower than the tax rate for ordinary income, the existing owners would pay a higher tax under this method.

Medical practices typically handle the buy-in or the reconciliation of accounts receivable in any one of the following ways:

Buy-in of an equal portion: The incoming owner would pay (or reduce his or her compensation) by an amount equal to the pro-rata value of accounts receivable.

Layering of accounts receivable: The existing practice owners would be the sole owners of the accounts receivable at any point in time up to the dollar amount that existed at the time the new owner became a shareholder or partner. Any additional value in the accounts receivable above this threshold would be shared equally among all of the owners, including the new owner. In this case, there would be no payment or reduction in compensation for accounts receivable since the new owner is not acquiring an interest in the receivables existing at the time of the buy-in.

Fresh start: The compensation formula would only apply to receipts from services provided after the effective date of the new owner's buy-in. All receipts from services performed before the buy-in would be distributed exclusively to the other owners. This results in a complete liquidation of the accounts receivable to the existing owners and a new build-up of accounts receivable for all owners. In this scenario, the "investment" that the new owner makes is paying personal living expenses for 60 to 90 days with his or her own money or with a loan.

The accounts receivable should be valued by some reasonable method to account for lack of collectibility. The method may be specified in a contract or may be determined by the practice's accountant.

Goodwill: Now You See It, Now You Don't

Until physicians actually buy into a practice, the only exposure most have had to goodwill is donating used clothing. Goodwill, "blue sky," or earning power is not only the most misunderstood of all practice assets, it is also the most elusive in terms of measuring value.

A useful way to conceptualize goodwill and its value is to compare the profitability of a physician coming out of residency and equipped with satisfactory space, personnel, and equipment with that of a similar physician entering into an established group practice. The key difference is that the former physician has everything except patients, which he or she will have to acquire over time. The latter physician has patients immediately and can be productive from the start.

Therefore, the first step in determining the purchase value of goodwill is to evaluate the associate's current situation. For example, if the associate has become well-established in the medical community and is not subject to a non-compete with his or her former group, and if the new group does not have exclusive arrangements with hospitals and office space is available, then it is very possible that the goodwill of the practice is of similar value to the goodwill the new physician will contribute to the practice.

Once the value of goodwill to the incoming owner is determined, care must be taken to ensure that the associate is actually purchasing something of value. The fact that a physician can earn much higher compensation by being affiliated with a group can be attributed to one of two factors: the entity's goodwill or the individual owners' goodwill. If payment for goodwill is required, the buy-in presumes that the goodwill lies with the entity and not with the individuals. This would be true in situations where the group practice has an exclusive arrangement with a hospital, health plan, or other referral source. This is also true when all of the owner/physicians are subject to a non-compete so that their departure would not cause patient volume to drop significantly.

In most cases, the owner/physicians are not subject to a non-compete and, therefore, much of the goodwill is tied to the individual owners rather than the group. For example, assume an analysis determines a group practice's goodwill value to be $500,000. Dr. Smith is about to buy a 20 percent interest in the practice and will pay $100,000 for her share of the goodwill. Two months after she pays the $100,000, three of the physicians in the group split off and form a new practice across the hall in the same medical building. The old group is stuck with a lease and equipment for a five-physician group, but it has only two physicians. It is very possible that Dr. Smith would be much better off practicing on her own.

What happened to the goodwill she purchased? It moved across the hall.

Goodwill buy-ins can take many forms. One physician may be ecstatic over a buy-in that contains no goodwill payment, while another physician laments over his $50,000 payment. However, it may well be that the first physician is not compensated under the same formula as the group's senior physicians; instead, his payment increases over a five-year phase-in period. Meanwhile, the second physician starts out immediately under the same compensation formula as the senior physicians. Most likely, the first physician will be paying far more than $50,000 during the phase-in period through lost compensation.

The Double Whammy

An incoming owner must do more than analyze a practice's buy-in arrangements. The physician must clearly understand his or her obligations to pay senior physicians when they leave the practice.

For example, an associate physician not subject to a non-compete may agree to pay a premium to become a member of the group. She may not, however, be willing to pay a premium to physicians who leave the group.

Conclusion: Kick the Tires

By the time a physician is invited to join a group, the physician and the senior members of the group are usually comfortable with each other. Everything is going well in the associate's development, and the invitation is a highlight in his or her professional career. Before taking the plunge, however, a prospective purchaser should become fully aware of what he or she is purchasing. Entering the group with full knowledge and open eyes makes for a healthy, long-term relationship. MM

Todd Freeman is a shareholder with the firm of Larkin, Hoffman, Daly & Lindgren, Ltd. and is chair of the Personal Service Organizations Committee of the American Bar Association.

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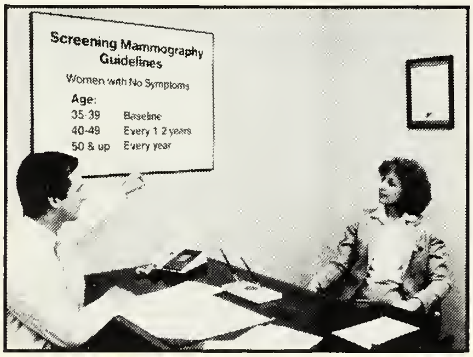

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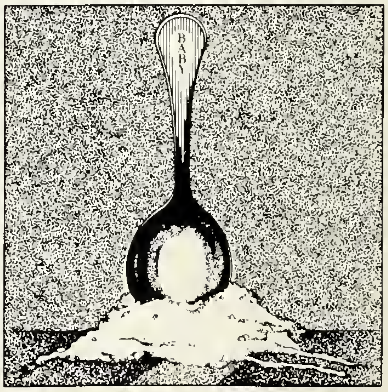

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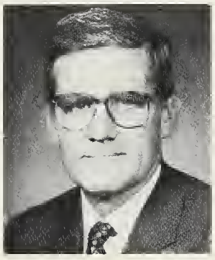
Easing the Medicare 'Hassle Factor'

Richard B. Tompkins, M.D.



> "The government appears ready to listen to suggestions on ways to cut through the red tape."

If Medicare's red tape keeps you stuck at your desk when you'd rather be seeing patients, you're not alone. According to an article on the "hassle factor" in the May issue of *MD* magazine, 52 percent of physicians surveyed said that they and their staffs spend 16 or more hours each week on government and insurance paperwork.

Ninety-three percent of the physicians responding to the *MD* survey think that government bureaucracy poses a "major threat to medicine today." Eighty-eight percent believe that DRGs and the "DRG mentality" compromise patient care, and 85 percent report that government regulations affect their choice of therapy.

Fortunately, the federal government appears ready to listen to suggestions from physicians on ways to cut through the red tape. I was recently appointed to a new national committee that will advise Health and Human Services Secretary Louis Sullivan, M.D., and HCFA Administrator Gail Wilensky, Ph.D., on the impact Medicare policies have on practicing physicians. The Advisory Committee on Medicare-Physician Relationships will meet for one year to review Medicare rules that physicians complain are burdensome and increase practice costs.

Joining me on the committee are six other physicians representing primary care, internal medicine, and surgery, as well as the chair, Senior HCFA Adviser Nancy E. Gary, M.D. Our responsibility is limited to reviewing *existing* Medicare policies and does not include payment issues. We have been asked to:

- identify the administrative burdens and costs the Medicare program places on physicians,
- examine the peer review organization and Medicare carrier policies that affect physicians,
- recommend legislative and administrative changes to lessen the burden on physicians.

There are strong indications that such recommendations are sorely needed. The *MD* article reported that physicians describe the hassles and the system that produced them as "outrageous," "insulting," "poorly designed," and "poorly managed." Physicians complain about the insult of having to fill out forms swearing they didn't falsify medical records, and they begrudge the ever-increasing load of paperwork.

The government took a step toward solving these problems by creating the new advisory committee, which is seeking physician suggestions for improvements. In recent weeks, I have been contacting physicians throughout Minnesota and asking for their comments.

I heard many complaints about the uncompensated time that must be spent on paperwork. "Too much of the administrative burden of the Medicare program is placed on the physician's office rather than on the Medicare carrier," according to a Duluth clinic. At a clinic in Worthington, two full-time people are kept busy monitoring Medicare rules and determining charges for physician visits to nursing home patients.

The language used in Medicare regulations was also criticized. "All messages are worded to imply that the doctor is doing something wrong, or worse yet, illegal," according to the Mankato Clinic.

Some of the complaints I heard about Medicare regulations include:

- Electronic claims submission speeds payment, but it can be prohibitively expensive for small clinics.
- Prescription forms for durable medical equipment are called "difficult," "cumbersome," and "a hassle."
- Coding is inconsistent between Medicare carriers, there is a lack of provider support for coding problems, and it takes too long to get new procedures approved by Medicare.

At the committee's first meeting, May 16 and 17, we began to discuss whether to eliminate or change the requirement that physicians file all Medicare claims, including unassigned claims. We also heard testimony about problems with the certificates of need that are required for all medical equipment. We plan to re-examine these topics after we have had a chance to consult with our colleagues. The committee will issue its interim findings in early summer and a final report in December 1991.

Please contact me about any problems or comments you may have regarding Medicare regulations. This is our opportunity to recommend ways for Medicare to become more responsive to physicians. MM

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People and Places Making Medical News

People

Charles Bolles Bolles-Rogers Award

James C. Mankey, M.D., founder of Southwest Internists P.A., was awarded the 1991 Charles Bolles Bolles-Rogers Award from the Hennepin County Medical Society and Metropolitan-Mount Sinai Medical Center. Each year the award recognizes a physician whose contributions to medicine make him or her an outstanding example of the profession. The executive committee of the medical staff at Fairview Southdale Hospital, where Mankey practiced, unanimously recommended him for the award.

State BME Appointee

Gov. Arne Carlson appointed Richard Mulder, M.D., of Ivanhoe, Minnesota, to the Board of Medical Examiners. Mulder is a family practitioner and, among other positions, is vice president of the Minnesota Medical Association.

Mulder also received a Distinguished Alumni award in May from the University of South Dakota School of Medicine Alumni Foundation. The award recognizes alumni who actively work to improve the quality of health care and who are active in community, state, and national affairs.

National BME Member

The National Board of Medical Examiners announced in May that it elected Gerald L. Hill, M.D., to a four-year term as a member-at-large. Hill is director of the Center of American Indian and Minority Health at the University of Minnesota-Duluth School of Medicine.

American Board of Family Practice

Robert F. Avant, M.D., of Mayo Clinic, is now deputy executive director of the American Board of Family Practice, the certifying organization for the nation's second largest medical specialty. Avant, formerly chairman of the Department of Family Medicine at Mayo Clinic in Rochester, assumed his new position April 15. For a limited time he will continue to provide services part time to the Mayo Clinic in Jacksonville, Florida.

Abbott Northwestern Board

William George, president and chief executive officer of Medtronic, Inc., is the new chair of Abbott Northwestern Hospital's Board of Directors, and Worth Bruntjen, chief investment officer and senior vice president of Piper Capital Management, is the new vice-chair. The appointments were approved at the hospital's April 25 annual meeting.

Medica Senior Management

Medica, the new parent company of PHP and Share health plans, announced its senior management members in June.

Allan J. Chernov, M.D., is medical director and vice president of Medical Affairs. He joined PHP as medical director in 1989.

James Eppel is vice president of Network Services. He became director of Physician Services in 1987 and was promoted to vice president in 1989.

Peter Fish, A.P.R., is public relations manager. He joined PHP in 1990 after serving as director of Management Communications for Ramsey Healthcare Inc. of St. Paul.

Phil Griffin is director of Legislative and Regulatory Affairs. He began working for PHP in 1984 after spending two years as the assistant director of legislative affairs for the Minnesota Medical Association.

Stanley Hamilton, C.P.A., J.D., is chief financial officer and vice president of Finance and Administration. Formerly vice president and treasurer of Carter Day Industries in Fridley, he joined PHP in February.

Arnold Hebert, M.B.A., C.L.U., is vice president of sales, a position he's held with PHP since 1989.

Allen Miller is vice president of Medica Primary Contracting and Operations. He has worked to maintain relationships with Share Health Plan's physician groups since 1989 and will continue these services with Medica.

Joanne Sigstad, R.N., is vice president of Medical Management. Sigstad was director of PHP Member Relations and Medical Management from 1986 until 1989, when she became vice president.

David Strand, J.D., is senior vice president and legal counsel of Medica and president of Physicians Health Choice (PHC), a Medica subsidiary company. He joined Medica after three years with Popham, Haik, Schnobrich & Kaufman law firm, where he specialized in health care issues.

Mary Sue Weir is manager of Human Resources. She has held various personnel management positions with United HealthCare Corporation since 1984.

Park Nicollet Board

The Park Nicollet Medical Foundation elected Don Amren, M.D., and Patricia Hasselmo as directors of the medical research and education organization.

Amren is vice president of medical affairs at Methodist

Hospital, a former member of the Pediatrics Department at Park Nicollet Medical Center, and former president of the Park Nicollet Medical Foundation.

Hasselmo is a former member of the Golden Valley Board of Education and a former member of the Metropolitan Council.

George Morrow Joins Mercer

George T. Morrow II has joined the Twin Cities office of William M. Mercer Inc. as a senior consultant. He has expertise using health care outcomes data and will advise employers on strategic health care management.

Formerly, Morrow was president and chief executive officer of Physician's Health Plan and vice president, secretary, and general counsel of United Healthcare Corporation.

Places

Minnesota Hospitals in U.S. Study

Four Minnesota hospitals—St. Paul-Ramsey Medical Center, Fairview Southdale Hospital, Hennepin County Medical Center, and Mayo Clinic—are taking part in a national study to find better methods of treating heart attacks with the controversial clot-dissolving drugs streptokinase and t-PA. As the largest U.S.-based study of cardiovascular medicines, the research will encompass about 40,000 patients and 1,200 to 1,400 hospitals worldwide. It will run until the spring of 1992.

Emergency patients with acute heart attack symptoms will be treated with different combinations of the drugs in order to find the most successful dosages and methods. Researchers also hope to determine which of the two drugs is most successful. The cost of t-PA is more than 10 times the cost of streptokinase, even though both drugs work well.

New Abbott Cancer Institute

Abbott Northwestern Hospital formally opened the Virginia Piper Cancer Institute May 14. The center will allow Abbott to offer state-of-the-art technology and clinical research to ensure that the latest cancer treatments are available, said Abbott's chief executive officer, Gordon Sprenger.

The first $2 million of the $12 million goal for establishing the institute came from Harry Piper, his family, and the family's publicly held company, Piper, Jaffray & Hopwood, Inc. The institute is named for Piper's wife who was a long-time board leader and key player in the hospital's growth. Virginia and Harry Piper both died of cancer within the past three years.

Martin Oken, M.D., is medical director of the new institute, and Tae Kim, M.D., is medical director of radiation oncology. Oken was formerly a professor of medicine at the University of Minnesota and chief of the Oncology Subsection and staff physician in the Hematology/Oncology Section of the VA Medical Center in Minneapolis. Kim is a former associate professor of therapeutic radiology at the University of Minnesota.

New Twin Cities Mobile Heart Lab

Community hospitals can now offer state-of-the-art cardiac catheterization services to selected patients through Mobile Heart of Minnesota, the Twin Cities' first mobile cardiac catheterization laboratory. The lab, a joint service of Abbott Northwestern Hospital, Minneapolis Cardiology Associates, and Outpatient Technologies, Inc., will visit rural and suburban hospitals.

"Mobile technology may be one way to reduce overall health care costs because community hospitals may decide not to invest in ... new technology if it is already being brought to them," said Mark Dixon, senior administrator at Abbott Northwestern Hospital. "Mobile technology can also save patients the anxiety and cost of overnight travel, and, through easier access to diagnostic services, may help many people detect heart disease earlier."

Mobile catheterization technology has been available in the United States since 1984. Currently, approximately 34 mobile catheterization laboratories operate in 26 states and have performed more than 4,600 successful angiograms.

New Fairview Center

Fairview will begin construction in September of a new $12 million regional medical center on Highway 169 in Princeton. The center, which will be complete in 1993, will include a 65,000-square-foot hospital building and an attached 20,000-square-foot medical clinic. Fairview also plans to convert the Fairview Milaca Hospital into an ambulatory care center.

In 1976, Fairview acquired the current 35-bed Princeton Hospital, which merged with the 41-bed Milaca hospital in 1986. The new regional medical center will consolidate the area's health care resources, said Glenn Erickson, Fairview regional administrator. A need for additional space to meet the health care demands of the area's growing population prompted the project, he said.

The new three-story, 41-bed hospital in Princeton will feature private rooms, two surgical suites that quadruple current operating space, five LDRP (labor-delivery-recovery-postpartum) rooms, a four-bed coronary care unit, comprehensive radiology services, and expanded laboratory services.

New Blood Bank Safety Measures

The American Red Cross and other independent blood banks across the nation plan to improve their systems for collecting blood in an effort to reduce the chance of releasing AIDS-infected blood.

The Red Cross announced in May its plans to install a new computer system and make other changes to centralize testing and record-keeping. As a result, the St. Paul-based blood center could become one of the Red Cross's major testing sites. While several Red Cross blood centers have been criticized for releasing blood before completing AIDS or hepatitis testing, no such problems have been reported at the St. Paul blood center, which already has a computerized system.

Jeffrey McCullough, M.D., of Edina, Minnesota, designed the new national computer system. McCullough, director of the St. Paul blood center, is on a one-year leave of absence to act as senior vice president of the American Red Cross.

The 2,400 independent blood banks across the nation are also starting a program to improve the safety of their blood. The American Association of Blood Banks (AABB), whose members supply about half the blood used in the United States, is starting a more stringent quality assurance program to ensure that procedures are meticulously followed. The details of the program will be determined by special committees appointed by the organization's board of directors, but the AABB's program will probably not be as extensive as the Red Cross's, said Joel Soloman, AABB chief executive officer.

Socioeconomics

Carlson Vetoes Health Care Bill

Gov. Arne Carlson vetoed the Legislature's bill for universal health insurance June 3. He attacked the bill for having no long-range plan for funding, for providing only preventive coverage, and for rationing health care because it wouldn't immediately provide coverage to all uninsured.

All but nine DFLers voted for the bill, while all but 11 Independent Republicans voted against it. Angry DFLers are questioning Carlson's sincerity in wanting to solve Minnesota's health care problems, and several are already talking about overriding the veto during the 1992 legislative session.

Carlson says he will continue to push for his own health initiative, known as the Consumers Health Improvement Plan (CHIP), which would experimentally subsidize premiums for about 12,000 people in specified areas of the state. After it was in place, a decision about whether to expand the program would be made.

Workers' Comp Vetoed, Too

Gov. Arne Carlson also vetoed a bill May 28 that would have reduced workers' compensation rates. The bill would have cut employers' costs by 12 percent, but Carlson wants a bill that cuts costs by 17 percent.

Minnesota businesses have long called for a change in workers' compensation because they pay rates that are double or triple those in neighboring states. DFL leaders criticized Carlson for not passing the bill, which would have offered relief to employers.

Carlson claimed that the bill failed to meet several changes he wanted, including preventing claimants from receiving more in benefits than they earn while working, ending total disability benefits to claimants who are not seriously injured, and controlling costly litigation.

Heroin and Alcohol Use Up, Cocaine Down

While cocaine continues to be the primary illegal drug used in the Twin Cities, its use is declining. Meanwhile, heroin use and availability seem to be increasing, and a higher percentage of hospital treatments involve alcohol-only diagnoses.

The information was reported in the Department of Human Services' semi-annual report on drug abuse, which analyzes data on drug deaths, emergency room mentions, treatment admissions, and police information about arrests and drug seizures.

Use of marijuana and stimulants such as methamphetamines also declined, but opiates seem to be more readily available. Accidental deaths from opiate overdose increased from four in 1988 to 13 in 1990.

The report also found that despite recent media attention to "ice," a smokable form of methamphetamine that some believed would result in the next "crack" epidemic, the trafficking and use of methamphetamines in the Twin Cities are primarily limited to motorcycle gangs.

Syphilis on the Rise

Syphilis is on the rise in Minneapolis, especially among black inner-city youths who use and sell drugs. The disease slowed sharply in the late 1980s but then jumped 92 percent from 1989 to 1990, going from 64 cases in 1989 to 123 in 1990. Syphilis cases have risen only slightly in St. Paul, going from 14 to 17 cases in the same time period.

Local health officials were surprised by the outbreak because they had believed fear of AIDS and safe-sex education were controlling spread of the disease. They blame the outbreak primarily on crack cocaine, which may increase sexual drive and promote high-risk behavior, such as sex in exchange for drugs.

Syphilis is also rising nationally, possibly related to growing urban poverty. "Declines in socioeconomic and educational levels in certain populations ... have been associated with unemployment, drug use, prostitution, and family disruption, conditions conducive to the spread of syphilis," reported the Centers for Disease Control.

New Medicare Fee Schedule

The federal government proposed a new Medicare fee schedule May 31 that would increase fees for family doctors and general practitioners but cut fees for surgeons and other specialists. The government hopes that redistributing Medicare money will promote rural family practice.

The new fee schedule pays doctors according to a national fee schedule that is adjusted for geographical differences. The current system bases payments on prevailing and reasonable charges.

The new system is scheduled to start January 1 and will be phased in over the following four years. Under the new schedule, family physicians' fees will increase about 14 percent in the first year and about 17 percent by 1996. Ophthalmologists' and anesthesiologists' fees will drop about 3 percent in the first year and about 16 percent by 1996.

Medicaid to Pay for Clozapine

Medicaid will now pay for clozapine, an expensive schizophrenia drug treatment that could help thousands of psychotic patients.

The treatment, which includes a system for monitoring lethal side effects, costs thousands of dollars per year. The federal government will pay its standard 50 percent of Medicaid costs for the drug and the monitoring system.

Blue Cross and Blue Shield will likely follow suit and pay for the drug for private patients, said Cheryl Van Tilburg, a spokeswoman for Blue Cross.

Law & Policy

AIDS News

The federal government dropped a proposal from the Department of Health and Human Services to start allowing people infected with AIDS into the United States. A four-year-old policy includes AIDS on a list of diseases that bar a person from entering the country, but public health groups and AIDS activists have called the policy discriminatory and medically unjustified.

The proposal was tabled in May after the government received about 40,000 negative letters from the public and after conservatives voiced strong opposition, arguing that admitting AIDS-infected foreigners would expose the country to public health risks and huge potential medical costs.

Administration officials proposed that aliens with the AIDS virus be banned from immigrating and becoming permanent residents, thus meeting concerns about costs, but that travelers and visitors be allowed to stay for brief time periods.

Officials said they expect AIDS to remain on the list of diseases preventing aliens from entering the United States while debate continues on the issue.

In related news, the New Jersey Medical Society passed a resolution calling for voluntary testing of all hospital patients and regular testing of physicians and other health care workers in danger of contracting the AIDS virus from patients. The resolution is only advisory but proposes to make hospital admitting privileges available only to physicians who agree to take the test.

Parent Notification Passes in Nebraska

Nebraska passed a law May 29 requiring girls seeking an abortion to notify their parents. The bill includes a provision, which the U.S. Supreme Court mandated on a similar parental notification rule in Minnesota, providing that the girl be allowed to seek court approval for the abortion if she does not want to tell a parent.

The Nebraska law waives parental notification if the girl's health is in immediate danger or if she is a victim of neglect or sexual abuse.

Innovations

Small Intestine Transplants

The first series of successful small intestine transplants was achieved at the University of Pittsburgh, reported surgeons May 31. The transplants and treatments were difficult, they said, but suggest that intestinal transplant may become a practical treatment.

The patients included three children and two adults suffering from short gut syndrome, which is caused by surgical removal or underdevelopment of part or all of the small intestine due to traumatic injury, blood clots, or birth defects. The physicians estimate that only 200 children have been born with the syndrome.

Portable Device Keeps Heart Beating

Physicians in Houston became in May the first to implant a portable, mechanical device to help a patient's failing heart keep beating until a heart donor is found. The device, manufactured by Thermo Cardiosystems Inc. in Waltham, Massachusetts, involves no external console and is a step toward developing a totally implantable artificial heart.

The patient's heart is left in place, and the device takes over or boosts the left ventricle. The device offers the potential to reduce risk of strokes and infections that accompanied experiments with the Jarvik-7 full artificial heart, which lost FDA approval because of deficiencies.

Medical Research

Surgeons With AIDS

At the March convention of the American Academy of Orthopedic Surgeons, only two of 3,420 surgeons who volunteered to be tested were positive for HIV, said Centers for Disease Control officials May 16. Both were men with non-occupational risk factors. Although both had performed surgery on patients at risk for HIV, neither reported injury while working with HIV-infected blood.

Researchers were encouraged that they found no cases of AIDS acquired on the job. Orthopedic surgeons are at high risk because they work with blood, tissue, and bones.

Age-Discriminating Medical Care

Men over 65 years old, and especially over 75 years old, received less aggressive testing and treatment for cancer than younger men in a study of 242 patients with prostate cancer at 10 Southern California hospitals. The study, conducted in the early 1980s and published in the journal *Cancer* in May, questions whether age discrimination is common when physicians make medical choices.

The researchers say the older patients could not have received less aggressive treatments as a result of their overall health because the older men were just as healthy as the younger men.

The study found that doctors ordered bone scans for 80 percent of the men between the ages of 50 and 64, but for only 58 percent of men over 75. Sixty-seven percent of the younger men were given pelvic radiation or surgery to remove the prostate, while only 10 percent of those over 75 received the same treatments. The older men were usually given hormone treatment to slow the cancer.

The patients' fates were not studied, so the researchers do not know if less aggressive care shortened the patients' lives.

Problems of Cocaine Babies Overstated?

Babies born to mothers who took cocaine while pregnant are more damaged by their environment than by the cocaine, reports Claire D. Coles, director of clinical and developmental research in the human genetics laboratory at Georgia Mental Health Institute. Other studies have found that such babies have learning problems because of brain damage, but Coles' study, which she presented at the annual meeting of the American Psychiatric Association in May, found no abnormal behavior in the first month of life.

Coles' group studied 107 women, 50 of whom used only cocaine throughout pregnancy and 57 of whom used other drugs such as marijuana, alcohol, and nicotine. The research group conducted tests of the babies at birth, 14 days, and one month, and found no behavioral effects in the cocaine group. It did, however, find some behavioral effects in the other groups. Coles said the cocaine babies had some physical differences, such as smaller heads and lower birth weights. MM

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A ONE DAY COURSE OFFERING PRACTICAL STRATEGIES FOR THE MANAGEMENT OF CHRONIC PAIN

Chairman
Miles Belgrade, M.D.
Hennepin County Medical Center
Minneapolis, MN

September 20-22, 1991

AMBULANCE MEDICAL DIRECTOR RETREAT

A POPULAR FORUM FOR PHYSICANS TO EXCHANGE INFORMATION REGARDING THE ROLES AND RESPONSIBILITIES OF THE MEDICAL DIRECTOR

Chairmen
David Larson, M.D. and Randall S. Fischer, E.M.T.
Breezy Point Resort
Breezy Point, MN

September 27, 1991

CONTEMPORARY ISSUES IN DIALYSIS THERAPY

RECENT DEVELOPMENTS IN THE PROVISION OF RENAL REPLACEMENT THERAPY

Chairmen
Robert Berkseth, M.D. and Charles Smith, M.D.
Hennepin County Medical Center
Minneapolis

October 3-4, 1991

FORENSIC SCIENCE SEMINAR

OF SPECIAL INTEREST TO THOSE INVOLVED WITH INVESTIGATIONS

Chairman
Garry Peterson, M.D.
Hennepin County Medical Center
Minneapolis, MN

For further information, contact the Office of Academic Affairs
701 Park Avenue, Suite 4512, (Mail Code #865), Minneapolis, MN 55415; 612/347-2075
fax 612/347-6155

Hennepin County Medical Center
HCMC

OFFICE OF
ACADEMIC
AFFAIRS

A Calendar of Continuing Medical Education Courses

Provided through the MMA Medical Education Subcommittee on CME Resources. For assistance with scheduling meetings or for information on future medical meetings and CME courses at the state and national level, please contact the MMA office: 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414; 612/378-1875. Information for each entry is arranged by date; name of program; primary sponsor; location; contact person.

JULY 1991

July 8-12 **Team Management of Diabetes Mellitus** International Diabetes Center; International Diabetes Center, Minneapolis, MN. CONTACT: Cindy Poppitz, International Diabetes Center, 5000 West 39th Street, Minneapolis, MN 55416; 612/927-3393.

July 15 **Penetrating Keratoplasty/Eye Banking** Phillips Eye Institute Center for Teaching & Research; Phillips Eye Institute, Minneapolis, MN. CONTACT: Mary Strazz, Phillips Eye Institute, 2215 Park Avenue South, Minneapolis, MN 55404; 612/336-5309.

July 16 **Management of Depression** Mesabi Regional Medical Center; Mesabi Regional Medical Center, Hibbing, MN. CONTACT: Diane Antonovich, Mesabi Regional Medical Center, 750 East 34th Street, Hibbing, MN 55746; 218/262-6927.

July 20-27 **Ninth Annual Medical Seminar** North Memorial Medical Center, University of Minnesota Department of Family Practice, and St. John's Regional Health Center; Plummer's Great Slave Lake Lodge, NW Territories, Canada. CONTACT: Joseph F. Bocklage, M.D.; 612/588-9478.

July 22-26 **Team Management of Diabetes Mellitus** International Diabetes Center; International Diabetes Center, Minneapolis, MN. CONTACT: Cindy Poppitz, International Diabetes Center, 5000 West 39th Street, Minneapolis, MN 55416; 612/927-3393.

AUGUST 1991

Aug. 17 **Current Concepts in Glaucoma Surgery** Phillips Eye Institute Center for Teaching & Research; Phillips Eye Institute, Minneapolis, MN. CONTACT: Mary Strazz, Phillips Eye Institute, 2215 Park Avenue South, Minneapolis, MN 55404; 612/336-5309.

Aug. 19-22 **Update in Gastroenterology and Hepatology, Mayo Clinic-Vienna Medical Association Symposium** Mayo Clinic and Mayo Foundation; Vienna, Austria. CONTACT: Secretary to Dr. Sidney Phillips, Mayo Clinic, St. Mary's GI Unit, 200 1st Street SW, Rochester, MN 55905; 507/285-6028.

Aug. 25-28 **First International Congress on Xenotransplantation** Office of CME, University of Minnesota Medical School; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

SEPTEMBER 1991

Sept. 4-7 **Annual Orthopaedic and Trauma Seminar** HCMC and Hennepin Faculty Associates; Hennepin County Medical Center, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Sept. 5 **Topics in Pediatric Emergency Medicine** Minneapolis Children's Medical Center; Massie Moos Auditorium Education Building, Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Kathy Ingerson, Minneapolis Children's Medical Center, 2525 Chicago Avenue South, Minneapolis, MN 55404; 612/863-5884.

Sept. 5-7 **Teaching Geriatric Medicine** Office of CME, University of Minnesota Medical School; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Sept. 6 **Annual Clinical Management of Osteoporosis** HCMC and Hennepin Faculty Associates; location to be announced. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Sept. 6-7 **Mayo Surgical Symposium** Mayo Clinic and Mayo Foundation; Mayo Clinic, Rochester, MN. CONTACT: Rita Kunz or Jan Fleck, Mayo Clinic, 200 1st Street SW, Rochester, MN 55905; 507/284-2509 or 800/323-2688.

Sept. 7 **Atherosclerosis: Beyond Cholesterol** Office of CME, University of Minnesota Medical School; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Sept. 7 **Ophthalmic Plastic Surgery Update** Phillips Eye Institute Center for Teaching & Research; Phillips Eye Institute, Minneapolis, MN. CONTACT: Mary Strazz, Phillips Eye Institute, 2215 Park Avenue South, Minneapolis, MN 55404; 612/336-5309.

Sept. 13-15 **Surgical Medical Clinics for Primary Care** Office of CME, University of Minnesota Medical School; Grandview Lodge, Brainerd, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Sept. 19-20 **Annual Trauma and Critical Care Conference** HCMC and Hennepin Faculty Associates; Hennepin County Medical Center, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Sept. 19-20 **Practical Pediatrics** Children's Hospital of St. Paul; United Children's Conference Center, St. Paul, MN. CONTACT: Sue Hance, Health One CME, 2810 57th Avenue North, Minneapolis, MN 55430; 612/574-7895 or 800/347-3627.

Sept. 20 **Pain Management Strategies for Primary Care** HCMC and Hennepin Faculty Associates; Hennepin County Medical Center, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Sept. 20-21 **American College of Surgeons Commission on Cancer** Cancer Management Course; Mayo Clinic Facilities, Rochester, MN. CONTACT: Dr. John Donohue or Dr. David Nagorney, Mayo Clinic, Department of Surgery, Rochester, MN 55905; 507/284-2644.

Sept. 20-21 **Nursing Home Medical Directors** Office of CME, University of Minnesota Medical School; Sheraton Midway Hotel, St. Paul, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Sept. 22-24 **International Conference on the Treatment of Sex Offenders** Office of CME, University of Minnesota Medical School; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Sept. 26-27 **Annual Autumn Seminar: Obstetrics and Gynecology** Office of CME, University of Minnesota Medical School; Park Inn, Minneapolis, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Sept. 26-27 **Annual Mayo Clinic Update in Hepatology** Mayo Clinic and Mayo Foundation; Mayo Clinic, Rochester, MN. CONTACT: Rita Kunz or Jan Fleck, Mayo Clinic, 200 1st Street SW, Rochester, MN 55905; 507/284-2509 or 800/323-2688.

Sept. 27 **Annual Contemporary Issues in Dialysis Therapy** HCMC and Hennepin Faculty Associates; Sheraton Midway Hotel, St. Paul, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Sept. 27 **Thrombolytic Therapy in Acute MI** Abbott Northwestern Hospital; Minneapolis Heart Institute, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

Sept. 27 **Cardiac Arrhythmias** Office of CME, University of Minnesota Medical School; location to be announced. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Health One Medical Education

July 11
POTPOURRI OF INSTRUCTIVE CASES
Presented by K. Wang., M.D.
12:30 p.m., Sioux Valley Hospital, New Ulm

July 15
PENETRATING KERATOPLASTY
Presented by Richard Lindstrom, M.D.
Phillips Eye Institute
Center for Teaching/Research
2215 Park Avenue, Minneapolis

August 8
DIAGNOSIS AND MANAGEMENT OF NECK MASSES
Presented by Merrill Biel, M.D.
12:30 p.m., Sioux Valley Hospital, New Ulm

August 17
CURRENT CONCEPTS IN GLAUCOMA SURGERY
Presented by Dan Nichols, M.D.
Phillips Eye Institute
Center for Teaching/Research
2215 Park Avenue, Minneapolis

For further information contact the Office of Continuing Medical Education, Health One (612) 574-7895 or call toll-free 1-800-343-3627

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Sept. 27-29 **Update in Cardiovascular Diseases** Mayo Clinic and Mayo Foundation; Mayo Clinic, Rochester, MN. CONTACT: Rita Kunz or Jan Fleck, Mayo Clinic, 200 1st Street SW, Rochester, MN 55905; 507/284-2509 or 800/323-2688.

OCTOBER 1991

Oct. 2-4 **Fourth International Symposium on Biliary Stone Therapy** Mayo Clinic and Mayo Foundation; Mayo Clinic, Rochester, MN. CONTACT: Rita Kunz or Jan Fleck, Mayo Clinic, 200 1st Street SW, Rochester, MN 55905; 507/284-2509 or 800/323-2688.

Oct. 2-4 **Internal Medicine Review: Cardiology, Hematology, Endocrinology** Office of CME, University of Minnesota Medical School; Mayo Memorial Auditorium, Minneapolis, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Oct. 3-4 **Annual Forensic Science Seminar** HCMC and Hennepin Faculty Associates; Hennepin County Medical Center, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Oct. 8 **Biofeedback for Colorectal Disorders** Office of CME, University of Minnesota Medical School; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Oct. 9-12 **Colon and Rectal Surgery** Office of CME, University of Minnesota Medical School; Mayo Memorial Auditorium, Minneapolis, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Oct. 11 **Annual Advances in Geriatric Care** HCMC and Hennepin Faculty Associates; Hennepin County Medical Center, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Oct. 11 **Current Clinical Cardiology & the 10th Annual Jesse E. Edwards Lectureship** St. Paul Heart Clinic/Health One CME; United Children's Conference Center, St. Paul, MN. CONTACT: Sue Hance, Health One CME, 2810 57th Avenue North, Minneapolis, MN 55430; 612/574-7895 or 800/347-3627.

Oct. 11-12 **Adolescent Sexuality: Issues for the 1990s** Office of CME, University of Minnesota Medical School; Holiday Inn Downtown, Minneapolis, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Oct. 11-12 **Endoscopic Sinus Surgery** Office of CME, University of Minnesota Medical School; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar,

MMA-Accredited CME Sponsors

❧ The Minnesota Medical Association is the accrediting agency for Minnesota institutions that regularly sponsor CME activities for local physicians. ❧ Accreditation gives CME sponsors responsibility for conducting high-quality CME programs and for designating the amount and category of credit for CME activities. ❧ CME programs must meet the Accreditation Council for Continuing Medical Education's "Essentials for the Accreditation of Sponsors of Continuing Medical Education," which the MMA has adopted. ❧

The MMA's Committee on Accreditation and CME has reviewed the following institution's CME programs and re-accredited the institution as a CME sponsor for a period of four years:

❧ Virginia Regional Medical Center, Virginia (5/20/91)

For more information on MMA-accredited CME sponsors, please call Jane Phillip at the MMA, 612/378-1875 or 800/999-1875.

Film: Prescribing Controlled Substances

A new film on the prescribing of controlled substances has been made available by the Minnesota Medical Association. This videotape, which was the subject of a recent seminar series, examines the appropriate use of benzodiazepines and narcotic pain medications and emphasizes the elements of a proper medical record. The film has been reviewed and is acceptable for one hour of prescribed credit by the American Academy of Family Physicians. For further information or to order the film, please call Vicki Westling at the MMA, 612/378-1875 or 800/999-1875. A $10 fee is charged per showing to cover shipping and handling expenses.

Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Oct. 14-15 **Advanced Trauma Life Support (ATLS)** Health One; United Children's Conference Center, St. Paul, MN. CONTACT: Sue Hance, Health One CME, 2810 57th Avenue North, Minneapolis, MN 55430; 612/574-7895 or 800/347-3627.

Oct. 14-18 **Radiology 1991: Cardiovascular and Interventional Radiology** Office of CME, University of Minnesota Medical School; Hyatt Regency Hotel, Minneapolis, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Oct. 18 **Current Topics in Neurology & Psychiatry** HCMC and Hennepin Faculty Associates; Minneapolis Athletic Club, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Oct. 18 **Antimicrobials in the '90s: Expanded Options for Effective Patient Care** Office of CME, University of Minnesota Medical School; University of Minnesota Health Sciences Medical Center, Minneapolis, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Oct. 18-19 **Front Line Neurology: Primary Care Management of Patients with Neurological Problems** Abbott Northwestern Hospital; Marriott City Center, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

Oct. 25-26 **Fourth Annual New Ulm Fall Seminar** Sioux Valley Hospital/Health One; Sioux Valley Hospital, New Ulm, MN. CONTACT: Sue Hance, Health One CME, 2810 57th Avenue North, Minneapolis, MN 55430; 612/574-7895 or 800/347-3627.

Oct. 25-26 **Symposium on Facial Malignancy & Reconstruction** Office of CME, University of Minnesota Medical School; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

NOVEMBER 1991

Nov. 1 **Thrombolytic Therapy in Acute MI** Abbott Northwestern Hospital; Minneapolis Heart Institute, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

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- The publisher reserves the right to decline or withdraw advertisements. The publisher is not responsible for clerical or typographical errors and is not permitted to divulge the identity of advertisers who have replies sent to box numbers.
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Twenty-nine Physician Multispecialty Clinic located in desirable east-central Wisconsin location is seeking board-certified or board-qualified orthopedic surgeon to round out its services. Lab, X-ray, excellent hospital. Liberal guarantee and benefits. If interested, contact: D.F. Sweet, M.D., Fond du Lac Clinic, S.C., 80 Sheboygan Street, Fond du Lac, WI 54935. (R)

Family Physician wanted to join four physicians, one nurse practitioner, FP group practicing in two offices in Pine River and Pequot Lakes. Competitive salary. No ob. No HMOs. Rural area with outdoor recreational opportunities. Rotate call; adequate free time. Call or write: Gary G. Kohls, M.D., Pine and Lakes Clinics, PO Box 88, Pine River, MN 56474; 218/587-4416. (R)

Family Physician: Dynamic 14-physician, two-PA, three-office, single-specialty practice in northwest Minneapolis suburbs seeking additional associate, BC/BE; ob available. Competitive salary, full benefits, reasonable call and hospital rounds schedule. Contact: Dr. Diane Shuck, 612/537-8405; or Mark Pottanger, 612/537-8475, Northwest Family Physicians. (*R)

Wausau Medical Center is seeking BC/BE individuals in the following specialties: cardiology, dermatology, family practice, infectious disease, obstetrics/gynecology, pediatrics, and rheumatology. Modern clinic facility located across the street from modern, 300-bed hospital. Full partnership in three years. Easy access to lakes, woods, and mountains. Write (including CV) to: D.K. Aughenbaugh, M.D., Medical Director, Wausau Medical Center, 2727 Plaza Drive, Wausau, WI 55401. (R)

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Bemidji, Minnesota: Excellent opportunities for well-trained physicians. We are seeking BC/BE physicians in family practice, ophthalmology, pediatrics, and otolaryngology to join a young 30-physician multispecialty group practice located in northern Minnesota. Competitive salary guarantee plus incentive first year and excellent benefits. An excellent opportunity for a physician to enjoy practice in the center of hunting, fishing, and clear air. Please respond with CV to: C.C. Lowery, Administrator, Bemidji Clinic-MeritCare, 1233 34th Street NW, Bemidji, MN 56601; 218/751-1280. (R)

Outstanding Opportunity for a BC/BE Family Physician to join a progressive medical community with eight physicians oriented to family practice. Details will be given by contacting: Dr. Tim Schmitt, Wadena Medical Center, 218/631-1360, or Jim Lawson, Administrator, Tri-County Hospital, Wadena, MN 56482; 218/631-3510. (R)

Family Practice: Physicians seeking a BC/BE family practice physician for the Norway, Michigan, service area. The physician would have the option of joining one of the existing practices and/or setting up his/her own practice. Anderson Memorial Hospital is a part of Dickinson County Hospitals and has a service-area population of over 45,000. Contact: Dr. Paul Hayes' office, 906/563-9255, or Dr. William Gladstone's home, 906/563-8743. Anderson Memorial Hospital, Main Street, Norway, MI 49870; 906/563-9243. 2-7/91

Internist to join a progressive 13-physician group practice. Rural college town 30 miles from St. Paul, Minnesota, constructing new clinic and hospital. Contact: Robert B. Johnson, M.D., River Falls, WI 54022; 715/425-6701. (*3/91-R)

Urgent Care/Primary Care physicians for over 90 group positions in metropolitan Phoenix/Tucson, Arizona. Excellent compensation/partnership opportunities. Other quality positions nationwide. Send CV or call: Mitch Young (MM), PO Box 1804, Scottsdale, AZ 85252; 602/990-8080. (*1/90-R)

Mankato: FP partner to join four board-certified family physicians, ages 31-41, in fast-growing, full-range practice, includes ob. Population 40,000+. Seventy miles to Twin Cities. Four colleges nearby. Ninety+ physicians on hospital staff. Academic appointment available. Call: Tony Giefer, M.D.; 507/387-8231. (1/90-R)

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Family Physicians: Well-established south suburban Minneapolis family practice group seeks associates part/full time to staff day clinic. Excellent call schedule, salary, and fringe benefits. Also seeking locum tenens to staff PT/FT Urgent Care Centers and/or day clinic. Contact: Administration, Family Physicians, P.A., 612/435-4125, or send inquiries to Suite 100, 14050 Nicollet Avenue South, Burnsville, MN 55337. (*9/89-R)

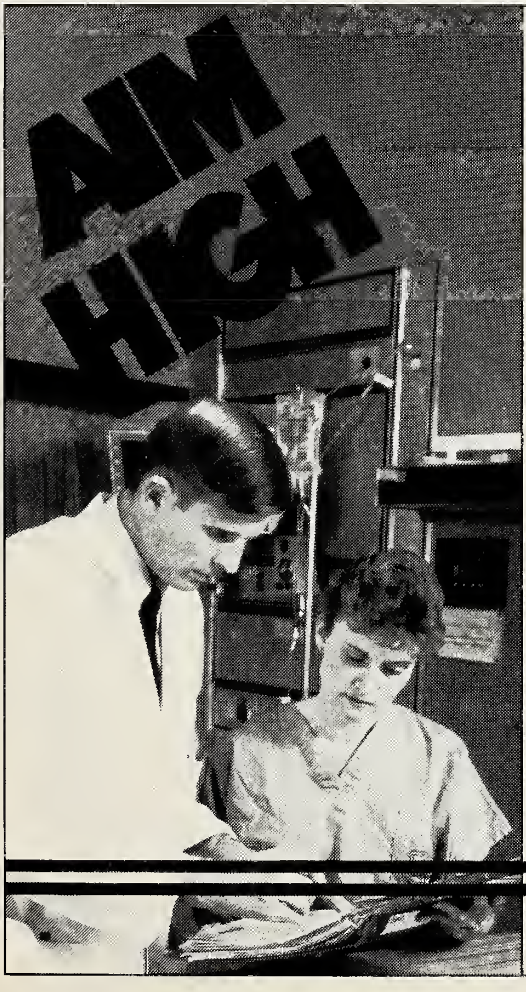
BC/BE Family Practice and Internal Medicine Physician: Excellent opportunity to join well-established, progressive, 20-physician multispecialty group located in an economically sound community of 20,000 (drawing area of 30,000), 65 miles south of the Twin Cities. Full membership after one year. Competitive salary and fringe benefits package. Contact: Ed Durst, M.D., or Terry Tone, Administrator, 134 Southview, Owatonna, MN 55060; 507/451-1120. (2/90-R)

Family Practitioner to join a progressive 13-physician group practice. Rural college town 30 miles from St. Paul, Minnesota, constructing new clinic and hospital. Contact: Robert B. Johnson, M.D., River Falls, WI 54022; 715/425-6701. (*3/90-R)

Phoenix, Arizona: BC/BE family physician needed for established medical group. Practice located in a desirable high-growth area. Excellent compensation and benefits package. Send CV to: Minnesota Medicine (843), 2221 University Avenue SE, Suite 400, Minneapolis, MN 55414. 12-7/91

Forest Lake Doctor's Clinic is seeking a BC/BE family physician, pediatrician, ob/gyn, and internist to join 10-physician multispecialty group. Located 25 miles north of Minneapolis-St. Paul in progressive community with excellent schools, many beautiful lakes, recreational activities, golf, fishing, boating, skiing. Local hospital directly across street. Contact: Dr. Harvey J. Frank or Dr. Doug Sill, 121 SE 11th Avenue, Forest Lake, MN 55025; 612/464-7100. (4/90-R)

Family Practice, Internal Medicine, Pediatrics, Urology, Obstetrics and Gynecology, Dermatology, and Orthopedics practice opportunities available at the Faribault Clinic. The Faribault Clinic is a multispecialty group practice of 14 physicians. Faribault is located 50 miles south of Minneapolis on I-35. For more information contact: Ray W. Wood, M.D., or Ken Smith, Administrator, 924 NE 1st Street, Faribault, MN 55021; 507/334-3921. (4/90-R)



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Downtown Office Space for Rent: Physician in the Medical Arts Building, 825, wishes to sublet to another physician on a part-time basis for the purpose of sharing overhead expenses. Call: 612/370-0553. (6/90-R)

Mankato Clinic, Ltd. is seeking BC/BE physicians in the following specialties: dermatology, invasive cardiology, ob/gyn, oncology/hematology, pulmonary medicine, vascular surgery, family practice, pediatrics, and general internal medicine. The Mankato Clinic is a 43-doctor multispecialty group practice in south-central Minnesota with a trade area population of +200,000. Guaranteed salary first year, incentive thereafter with full range of benefits and liberal time off. For more information call: Roger Greenwald, Administrator, or Dr. B.C. McGregor, 507/625-1811, or write: 501 Holly Lane, Mankato, MN 56001. (6/90-R)

Family Practice / North Shore Lake Superior: BC/BE family physician to join busy practice in primary care clinic of four family physicians with consulting internist, ophthalmologist, general surgeon, and orthopedic surgeon. Advantages of living in a small town while being only 22 miles from Duluth metro area. Contact: Lee Cohen or Steve Bjorum, Administrator, Community Health Center, Inc., 4th Street at 11th Avenue, Two Harbors, MN 55616; 218/834-7207. EOE/AA. (8/90-R)

Olmsted Medical Group is currently seeking BC/BE physicians in the following specialties: general surgery, family practice, emergency medicine, pediatrics, and ob/gyn. Excellent opportunity for well-trained physicians to join a 50+ physician multispecialty group in an established, progressive practice. In addition to the recently expanded main office in Rochester, Minnesota, the group operates eight branch offices in southeastern Minnesota. Affiliate hospital recently underwent complete renovation and expansion. Competitive salary/benefits package includes malpractice insurance, flexible benefits plan, 401(k) and profit sharing, and relocation assistance. Send CV to: Olmsted Medical Group, Attn: Susan Schuett, 210 Ninth Street SE, Rochester, MN 55904. (8/90-R)

Lake City, Minnesota: Family physician BC/BE needed to join three other FPs in progressive, growing practice on Lake Pepin/Mississippi River in southeastern Minnesota. Excellent first-year salary/benefits in a scenic community with multiple recreational opportunities. Contact: D.D. Pflaum, M.D., 303 South Washington, Lake City, MN; 612/345-3318. (8/90-R)

MDsearch assists medical groups and hospitals in their recruiting efforts. For confidential information on opportunities in the Upper Midwest, send CV and/or call collect: Mary Jo Cordes, MDsearch, PO Box 21507, St. Paul, MN 55121; 612/454-7291. 12-8/91

Family Practice—Hospital-sponsored Clinic Opportunity: Dynamic, growth-oriented hospital in beautiful north-central Wisconsin is seeking family physicians to join a growing practice in a new facility. The administrative burdens of medical practice will be minimized in this hospital-managed clinic. The hospital has committed to an income and benefits package that is significantly higher than similar opportunities. Package includes base income, incentive bonus, malpractice, disability, signing bonus, and student loan reduction/forgiveness program. All relocation costs will be borne by the hospital. Please contact: Kari Wangsness, Associate, The Chancellor Group, Inc., France Place, Suite 920, 3601 Minnesota Drive, Bloomington, MN 55435; 612/835-5123. (12/90-R)

Midwest: Dakota Medical Center is looking for a fifth ED physician. BC/BE in emergency medicine preferred, but primary care boards with ED experience acceptable. We are a large multispecialty group of 150+ members with all major subspecialties represented. Stockholdership in clinic after two years. Excellent benefits package. Extremely flexible hours in ED (up to 1,760/year), with option to work more in outpatient clinics if desired. Starting salary is >$60/hour. We have experienced a 20 percent increase in patient volume in the past two years, now seeing 18,000/year. Contact: Dakota Clinic, Ltd., Recruiting Division, 1702 South University Drive, Fargo, ND 58103; 701/280-8520. *6-7/91

Family Physician BC/BE: Immediate opportunity to join family practice clinic in Minneapolis. Practice will allow part-time or full-time schedule. Competitive salary and benefits. Interested candidates send CV to: Jean Burns, 10501 Wayzata Blvd., Minnetonka, MN 55343; 612/544-2605. (3/91-R)

Health Service on a 2,000-student, liberal arts campus, plus solid clinic practice with group of eight physicians, ob optional. One hundred miles south of Fargo, or 150 miles west of Minneapolis/St. Paul. Contact: Mike Busian, M.D., or Mike Flicker, Administrator, Morris Medical Center, 23 Montana Avenue, Morris, MN 56267; 612/589-3232. 6-8/91

Wisconsin: 120-physician multispecialty clinic in the Fox River Valley of northeastern Wisconsin desires two BC/BE pediatricians to join department of 15 BC/BE pediatricians. Excellent compensation and benefits package, leading to shareholder status after two years. The community offers a superb recreational, cultural, and family environment in which to practice. For information please call or write: Howard Kidd, M.D., La Salle Clinic, 411 Lincoln Street, Neenah, WI 54956; 414/727-4276. (3/91-R)

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- **Orthopedics (Pediatric)**
- **Pediatrics**
- **Pediatric Pulmonology (Intensivist)**
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- **Pulmonology**
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to join physician-owned, multi-specialty clinic with offices in South Minneapolis, Bloomington, and Eagan.

Family Practice Obstetrics is optional. Shared call responsibilities and reasonable hospital coverage.

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Family Physician wanted to join three board-certified M.D.s in well-established, expanding group practice. Weekend ER coverage. No buy-in. Financial package hard to beat. Enjoy a progressive, rural city within easy reach of St. Cloud and Minneapolis. Contact: Dr. Jim Mohs, Melrose Clinic, 603 West Main Street, Melrose, MN 56352; office, 612/256-4228; home, 612/256-3488. (4/91-R)

General Surgeon to join a progressive 12-physician group practice. Rural college town 30 miles from St. Paul, Minnesota, constructing new clinic and hospital. Contact: Robert B. Johnson, M.D., River Falls, WI 54022; 715/425-6701. (*4/91-R)

General Internal Medicine: Marshfield Clinic, a 350-physician multispecialty group practice, is seeking BC/BE family practitioners to join expanding regional centers. Positions are available in west-central, northwestern, and north-central Wisconsin. These are beautiful, wooded Wisconsin areas with an abundance of lakes, rivers, and streams. All are ideally suited for physicians seeking to combine professional excellence in a Midwest, family-oriented location offering exceptional four-season recreational activities. Wisconsin consistently leads the nation in ACT and SAT scores, and the school systems in these communities are excellent. Each opportunity offers a superlative lifestyle. Each has its own special qualities with more attractive features relative to individual needs and preferences. Starting salary up to $99,700, with salary in two years up to $131,600. Fringe benefits package is outstanding. If this combination of professional excellence and lifestyle made possible through the back-up resources of a leading medical center in conjunction with the uncommon, varied beauty of Wisconsin's land and lakes sounds interesting to you, please send CV and references to: David L. Draves, Director of Regional Development, 1000 North Oak Avenue, Marshfield, WI 54449; or call 800/826-2345, Ext. 5376. *4-7/91

Family Practice: Marshfield Clinic, a 350-physician multispecialty group practice, is seeking BC/BE family practitioners to join expanding regional centers. Practice opportunities range in size from single specialty groups of three to multispecialty groups of 35. Positions are available in west-central, northwestern, and north-central Wisconsin. These are beautiful, wooded Wisconsin areas with an abundance of lakes, rivers, and streams. All are ideally suited for physicians seeking to combine professional excellence in a Midwest, family-oriented location offering exceptional four-season recreational activities. Wisconsin consistently leads the nation in ACT and SAT scores, and the school systems in these communities are excellent. Each opportunity offers a superlative lifestyle. Each has its own special qualities with more attractive features relative to individual needs and

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Oxboro Clinics, a large, progressive, multispecialty practice with offices in Bloomington and Burnsville, offers outstanding physician opportunities.

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preferences. Starting salary up to $99,700, with salary in two years up to $131,600. Fringe benefits package is outstanding. If this combination of professional excellence and lifestyle made possible through the back-up resources of a leading medical center in conjunction with the uncommon, varied beauty of Wisconsin's land and lakes sounds interesting to you, please send CV and references to: David L. Draves, Director of Regional Development, 1000 North Oak Avenue, Marshfield, WI 54449; or call 800/826-2345, Ext. 5376. *4-7/91

BC/BE Ob/Gyn to join existing two-person practice at the 25-physician multispecialty Winona Clinic, Ltd., in Winona, Minnesota. Located in the beautiful Mississippi River Valley of southeast Minnesota, the community (with a 40,000-population trade area) is the host of two colleges and a diverse industrial base. Send CV to: J.B. Knuesel, Administrator, Winona Clinic, Ltd., 420 East Sarnia, Winona, MN 55987. 3-7/91

Emergency Medicine: Marshfield Clinic-Lakeland Center, located in the beautiful Lakeland area of northern Wisconsin, is seeking an ER physician. This individual must be BC/BE in FP, IM, or EM. This opportunity offers a challenging variety of patients, within a multispecialty group representing 13 specialties available for back-up. The Lakeland area offers a unique recreation-oriented lifestyle, and this position with a 48-hour work week will afford you the leisure time to enjoy it. Compensation includes a competitive salary along with one of the finest fringe benefits packages in the country. If you want to combine professional excellence with personal satisfaction and this opportunity sounds interesting to you, please send CV and references to: David L. Draves, Director of Regional Development, 1000 North Oak Avenue, Marshfield, WI 54449; or call 800/826-2345, Ext. 5376. *4-7/91

Internal Medicine and Family Practice Physicians—BC/BE: Exceptional opportunity to join our well-established, very busy multispecialty clinic located in Milwaukee. Attractive and well-equipped building, including in-house laboratory, X-ray department, business department, etc. Excellent progressive hospitals, medical school, regional medical center. The greater Milwaukee area offers superb family environment, diverse cultural and recreational options. This is a unique, outstanding professional and personal opportunity! Please send CV or contact: Jonathan Slomowitz, M.D., Mitchell Medical Center, 1672 South Ninth Street, Milwaukee, WI 53204; 414/383-4700. (4/91-R)

Minnesota—Pediatrician to join existing two-person practice at the 25-physician multispecialty Winona Clinic, Ltd., in Winona, Minnesota. Located in the beautiful Mississippi River Valley of southeast Minnesota, the community (with a 40,000-population trade area) is the host of two colleges and a diverse industrial base. Send CV to: J.B. Knuesel, Administrator, Winona Clinic, Ltd., 420 East Sarnia, Winona, MN 55987. 3-7/91

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Family practice group of four Board Certified physicians and a nurse practitioner seek two more family practitioners. Well established and busy practice located in the beautiful lake region of North Central Minnesota. Guaranteed salary, ample vacation, conference allowance, and a four day work week.

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St. John's Hospital EcuNet is now recruiting BC/BE Family Practice physicians who desire the challenge of working in an independent practice setting. Practice opportunities are currently available in Fargo, North Dakota and Moorhead, Minnesota as well as surrounding communities.

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St. John's Hospital EcuNet
510 4th St. S. · Fargo, ND 58103
(701) 234-8510

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Family Practitioner: Community of 2,000, 50 miles northeast of Minneapolis/St. Paul, seeks additional family practitioner. Located on the St. Croix River and Minnesota border. Practice consists of 13 family practitioners, two internists, two general surgeons, and one orthopedic surgeon. Many specialists available on a part-time basis. Attached to a 90-bed hospital with comprehensive services available. Very stable medical group with pleasant working conditions in a continuous growth mode. Guaranteed first-year salary with second-year partnership. Fringes include excellent retirement package and auto. Contact: Lenny Libis, Administrator, at 715/483-3221. 6-10/91

Iowa Practice Opportunity in Estherville. Family physician needed to join established rural clinic. Located close to outdoor recreational areas, offers easy access to larger metropolitan cities in Iowa and Minnesota. Competitive salary and signing bonus available. Opportunity of practice ownership. Contact: Bill Tendle, LifeSpan, 800 East 28th Street, Minneapolis, MN 55407; 800/248-4921. *3-7/91

Mora, Minnesota—Family Physician needed to join a seven-member FP group. We are a well-established, expanding practice and offer competitive salary and benefits package with partnership available. We have JCAHCO-accredited hospital, on-site consultations from numerous specialty disciplines, satellite offices located in Pine City and Hinckley. Mora is a progressive community located 65 miles north of the Twin Cities with an excellent school system and many cultural and recreational opportunities within easy access. Contact: Larry J. Brettingen, M.D., 224 Seventh Street, Mora, MN 55051; 612/679-1340. 6-10/91

Eugene, Oregon: 42-physician multispecialty group is seeking BC/BE family physician. Practice includes ob. Excellent schools. Abundant cultural and recreational opportunities. Near Cascade Mountains and coast. Home of University of Oregon. Please send CV to: Rob Dougherty, M.D., Oregon Medical Group, 2484 River Road, Eugene, OR 97404; or phone: 503/688-9140. 3-7/91

Physician: BC in emergency medicine, experienced in FP (no ob), and licensed in Minnesota, South Dakota, Wisconsin, available for locum tenens coverage. Reply to: Minnesota Medicine (850), 2221 University Avenue SE, Suite 400, Minneapolis, MN 55414. (5/91-R)

Seventeen-physician Multispecialty Group needs FP, IM, ob/gyn, and peds. Located on the edge of the Ozarks only one hour from St. Louis. Excellent community to raise a family. Excellent school systems and a service area of 200,000 residents. Excellent benefits. Contact: Ronald Stevens, Administrator, Medical Arts Clinic, 301 West Liberty Street, Farmington, MO 63640; 314/756-6751. 3-8/91

Midwest Full-spectrum Lighting: 612/721-1960. Great quality long-lasting lights for examining patients, operating, reading, or paperwork. Fluorescent, incandescent reflectors available. *5-10/91

Family Physician: Part-time positions staffing Convenience Care Medical Center. Competitive hourly salary plus malpractice insurance. Call or write: Bob Kantor, M.D., Grove Square Convenience Care, 13800 83rd Way, Maple Grove, MN 55369; (hm) 612/591-0437, (wk) 612/420-5379. 4-9/91

Urgent Care: Marshfield Clinic is seeking physicians trained and certified in primary care (family practice, internal medicine, pediatrics, or emergency medicine) to join newly developing urgent care practice in Marshfield, Wisconsin. Specialists representing all branches of medicine and surgery provide support care and services. A full-time physician will work 45-60 hours per week, usually four 12-hour days, including periodic weekends and holidays. Opportunities exist to combine this practice with an ER practice if desired. Marshfield was recently designated by *American Demographics* as one of the best small cities in the Midwest and America. Wisconsin offers a wonderful four-season, recreation-oriented lifestyle, and this position with fixed hours will afford the leisure time to enjoy it. Compensation includes a competitive salary along with one of the finest fringe benefits packages in the country. If you would like to combine professional excellence with personal satisfaction and this opportunity sounds interesting to you, please send CV and references to: David L. Draves, Director, Physician Staffing, 1000 North Oak Avenue, Marshfield, WI 54449; or call: 800/826-2345, Ext. 5376. *4-9/91

Stillwater: Multispecialty group with emphasis on primary care seeking BC/BE family physician and internist. Scenic location with excellent school system, supportive medical community with strong local hospital, competitive salary and benefits. Send CV to: Jon Petersen, St. Croix Valley Clinic, 921 Greeley, Stillwater, MN 55082; 612/439-2215. (6/91-R)

Issues in Primary Care: September 20-21, 1991. Landmark Inn Resort, Egg Harbor, Wisconsin. For more information contact: Nadine Punke, Office of Medical Education, Marshfield Clinic, 1000 North Oak Avenue, Marshfield, WI 54449; 715/387-5207. 3-8/91

Southdale Office Space for Rent: Physician in the Southdale Medical Building wishes to sublet to another physician on a part-time basis for the purpose of sharing overhead expenses. Call 612/925-4161. 2-7/91

Wisconsin: Third BC/BE obstetrician/gynecologist needed to join stable, progressive, primary-care-based HMO/group practice in university town of 60,000 near Minneapolis/St. Paul. Excellent quality of life and outstanding recreational area. Competitive salary and fringe benefits. Contact: Stuart R. Lancer, M.D., Medical Director, Group Health Cooperative, PO Box 3217, Eau Claire, WI 54702-3217; 715/836-8552. *3-9/91

Internal Medicine, Pediatrics, and Dermatology practice opportunities available at the Faribault Clinic. The Faribault Clinic is a multispecialty group practice of 19 physicians.

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The Rice Clinic, an expanding 29 physician multispecialty group, is seeking BC/BE individuals in the following specialties:

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☐ Neurology
☐ Oncology
☐ Psychiatry
☐ Rheumatology

Attractive income and ownership arrangements. Excellent practice environment with many outdoor recreational and cultural amenities.

Send CV to:
Paul Ford, Administrator
Rice Clinic, S.C.
2501 Main Street
Stevens Point, WI 54481
or call collect:
(715) 344-4120

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Administrator
St. Cloud Medical Group
1301 W. St. Germain Street
St. Cloud, MN 56301
612-251-8181

Faribault is located 50 miles south of Minneapolis on I-35. For more information contact: Ray W. Wood, M.D., or Ken Smith, Administrator, 924 NE First Street, Faribault, MN 55021; 507/334-3921. (4/90-R)

The Monticello Clinic: Well-established multispecialty clinic adjacent to 39-bed acute-care and 91-bed long-term care facility in a rural setting seeking a BC/BE family practitioner. Ideal location to raise a family. Thirty miles away from large metropolitan area. Year-round cultural and recreational activities. Excellent salary guarantee, production incentive, and benefits package. For more information, contact: Penny M. Vail, Director, Clinic Services, North Memorial Medical Center, 3300 Oakdale North, 3E Perinatal, Minneapolis, MN 55422; 612/520-4839. 1-7/91

Family Physician wanted to join five-physician, two-P.A., two-site family practice group in St. Anthony and Shoreview. Ob available. Competitive salary, benefits package, and call schedule. Contact: Gerald Pitzl, M.D., Silver Lake Clinic PA, 612/788-9251. (7/91-R)

Northbrook Clinic: Special opportunity for BC/BE family practitioner to join a well-established three-physician clinic. This practice will be moving in 1992 to a new facility. This northern suburb offers a safe family environment and outstanding educational, cultural, and recreational amenities. Excellent salary guarantee, production incentives, and benefits package. For more information, contact: Penny M. Vail, Director, Clinic Services, North Memorial Medical Center, 3300 Oakdale North, 3E Perinatal, Minneapolis, MN 55422; 612/520-4839. 1-7/91

Family Practice Physicians: Opportunity for two FP physicians to develop a general practice in a new clinic located in a quality-life community of 10,000 in northwest Iowa. Full-service hospital and specialist support available on site. Room in clinic to grow. Excellent guaranteed annual salary, incentives, and management options provided. Contact: Jim France, Williams & Company, PO Box 268, Sioux City, IA 51102; or call 800/666-4041. *1-7/91

Physician: Retired M.D. (general surgeon), seeking part-time employment in the health care field. Prefer administrative position, routine exams, health care evaluations, pre-employment physicals, teaching duties, etc. Resume available. Write: Minnesota Medicine (852), 2221 University Avenue SE, Suite 400, Minneapolis, MN 55414. 2-8/91

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Family Practice, Ob/Gyn, and Internal Medicine positions are available in a variety of settings from central Ohio, through Michigan, Indiana, Wisconsin, and Illinois, to the rolling plains of Kansas. Single or multispecialty groups or solo with call coverage. Attractive guarantees and benefits. For more information please contact our toll-free number, 800/243-4353, or send your CV to: Strelcheck & Associates, Inc., 10624 North Port Washington Road, Mequon, WI 53092. *3-9/91

Closing Extremely Well-Equipped Ob/Gyn Office. Examination tables, instruments all for sale at good prices. Call 612/544-4234. 2-8/91

Family Practice: BC/BE family practitioner to join 21-person family practice department that is part of a 45-person multispecialty group located in the northern suburbs of Minneapolis. Practice opportunities available in rural and suburban locations. Highly competitive first-year guaranteed salary, production-based compensation, exceptional benefits package. Respond with CV to: Penny Magnuson, M.D., 9055 Springbrook Drive, Coon Rapids, MN 55433; 612/780-9155. *1-7/91

General Surgeon: Busy clinical and surgical practice seeks BC/BE general surgeon as third member of department. Located in the northwestern suburbs of Minneapolis, Minnesota, offering suburban living with easy access to an unlimited array of family, cultural, educational, and recreational opportunities. Members of our multispecialty group earn a highly competitive salary and excellent benefits including paid vacation and CME; pension and profit-sharing plans; paid malpractice; health, life, dental, and disability benefits. For further information contact: W. Edwin Gould, M.D., 13986 Maple Knoll Way, Maple Grove, MN 55369; 612/420-5700. *1-7/91

Urgent Care: Full-time and part-time position available in busy urgent care center, located 20 minutes from downtown Minneapolis. Flexible hours, exceptional compensation and benefits. For further information contact: W. Edwin Gould, M.D., 13986 Maple Knoll Way, Maple Grove, MN 55369; 612/420-5700. *1-7/91

Occupational Medicine Physician needed to join rapidly expanding practice within a multispecialty group. Although BC/BE preferred, will consider experienced physician with strong interest in occupational medicine. Offering suburban living with easy access to unlimited array of cultural, educational, and recreational opportunities. We offer a highly competitive first-year guaranteed salary, production-based compensation, and an exceptional benefits package. For further information contact: W. Edwin Gould, M.D., 13986 Maple Knoll Way, Maple Grove, MN 55369; 612/420-5700. *1-7/91

Internist: Minneapolis VA Medical Center. Clinician-teacher needed to join geriatrically focused physician and nurse practitioner group. Duties include staffing intermediate medicine unit, teaching housestaff, and caring for nursing home patients. Competitive salary, minimum call, and congenial colleagues. Contact: Bill Korchik, M.D., Medical Director, Extended Care Center, 612/725-2035; or write: 1 Veterans Drive, Minneapolis, MN 55417. An Equal Opportunity Employer. *1-7/91

Medscript Transcription Service: Specializing in word processing for mental health professionals. Quality service provided by an experienced support professional in the western suburbs. Call Carol Anderson, 612/544-0346. 1-7/91

Family Practice Minnesota: Physician needed for broad-based practice in exceptional rural community. Shared call, fully equipped and staffed office, outstanding hospital, excellent guaranteed compensation, full benefits, and bonus. **Family Practice Wisconsin:** Multispecialty group of 16 physicians seeks BC/BE physician for partnership. Less than one hour from metro area. For this and other opportunities in the Upper Midwest, send CV to: Mary Jo Cordes, MDsearch, PO Box 21507, St. Paul, MN 55121; or call: 612/454-7291. 3-9/91

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Urgent Care Opportunities

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Group Health, Inc. with 33 years experience, is one of the largest multi-specialty group practices and staff model HMOs in the Midwest. Group Health is looking for BC/BE Family Practice/Internal Medicine/Pediatric physicians (3rd year residents), to work in our Urgent Care Medical Centers on evenings and weekends.

The Urgent Care clinics are supported by a 24 hour After-hours Care Team that is staffed with specially trained registered nurses. The registered nurses use a telephone triage system to direct patients and arrange for the most appropriate care. X-ray, lab and pharmacy services are located at each clinic.

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To inquire, please call (612) 627-6122, or send CV to:
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Physician Services
Attn: Ann Johnson
2829 University Ave. S.E.
Minneapolis, MN 55414

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Returning to Your Roots or Just Looking for a Change? Attention: Family practice physicians and ob/gyn physicians. For a free and most complete list of family practice and ob/gyn openings in the states of Minnesota and Wisconsin, please call: 612/796-6220 (collect). Avoid headhunter fees! *1-7/91

Pulmonologist, St. Cloud, Minnesota: Opportunity available in a growing 31-physician clinic of specialists and subspecialists of internal medicine. Growing community has three colleges, excellent school system, and abundant recreational activities. Family living conditions are excellent! The St. Cloud Clinic is located in a new facility with access to the latest in medical technological developments. For more information about this position, please contact: Brad E. Currier, M.D., or Mark Murphy, Administrator, 1200 Sixth Avenue North, St. Cloud, MN 56303; 612/252-5131. 3-9/91

$90,000+ Physician (Internist or Family Practitioner) needed to provide primary care in a regional treatment center that provides treatment for persons with chemical dependency/psychiatric problems including geriatrics and developmental disabilities. Fringes include approximately four weeks vacation plus two weeks CME, sick leave, paid malpractice, deferred comp to $7,500. Limited call (every 9th-10th night). Only 90 miles west of Minneapolis/St. Paul. Excellent schools. Call or write: Larry Olson, M.D., Medical Director, Willmar Regional Treatment Center, Box 1128, Willmar, MN 56201; 612/231-5100. EOE. 2-7/91

Wisconsin—Family Practitioner Needed by progressive and growing group practice in west-central Wisconsin city of 60,000. Ninety miles from Minneapolis/St. Paul. Primarily prepaid practice with large component FFS. Highly competitive salary with excellent fringe benefits. Practice high-quality care in a good recreational area. Send CV to: Stuart Lancer, M.D., PO Box 3217, Eau Claire, WI 54702-3217; 715/836-8552. *3-9/91

Endocrinologist, St. Cloud, Minnesota: Opportunity available in a growing 31-physician clinic of specialists and subspecialists of internal medicine currently with two established endocrinologists. Growing community has three colleges, excellent school system, and abundant recreational activities. Family living conditions are excellent! The St. Cloud Clinic is located in a new facility with access to the latest in medical technological developments. For more information about this position, please contact: Brad E. Currier, M.D., or Mark Murphy, Administrator, 1200 Sixth Avenue North, St. Cloud, MN 56303; 612/252-5131. 3-9/91

Immediate Opening for a BC/BE Family Physician to join my growing practice in rural southwestern Minnesota. Full or part time, competitive salary and benefits, flexible schedule. Willing to negotiate. If interested, send CV to: Dr. Richard D. Mulder, PO Box A, Ivanhoe, MN 56142. 1-7/91

Internal Medicine: A prime internal medicine practice awaits you in sunny, metropolitan Phoenix, Arizona. We have additional IM opportunities in picturesque Wisconsin and Ohio. Competitive income guarantee. Available benefits include malpractice insurance, CME allowance, relocation expense assistance, administrative/financial support, and more. For confidential inquiry, call 800/969-7715. Dan Jones, Gielow/Laske Associates, 306 North Milwaukee Street, Milwaukee, WI 53202. *1-7/91

Internist to fill an unexpected opening in a primary care internal medicine group of three in the northeast metro area. Practice in a relaxed, friendly atmosphere with guaranteed salary, partnership potential, and growth opportunities. Contact: Robert A. Florence, M.D., at 612/770-2383; or write: 2555 East County Road E, White Bear Lake, MN 55110. 1-7/91

Quality Childcare in Your Home: Individual attention from a nurturing nanny educated in child development. Personally interviewed. Rebecca's Nanny Agency, 612/763-4610. 1-7/91

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Fighting Racism in Medicine

AUGUST 1991

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COVER

Racism in Medicine The notorious Tuskegee syphilis experiment was the backdrop to a June symposium that drew more than 400 people to the Illusion Theater in Minneapolis to discuss race, prejudice, and health care—the subject of this month's feature story (page 15), which examines the factors that have created disproportionate health care problems among our nation's minorities.

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Measles, Immunizations, and Vaccines

Edmund C. Burke, M.D.

Still Fighting Measles

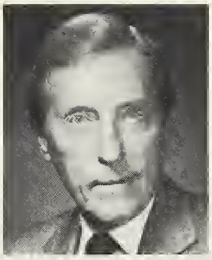
About 60 percent of American children between one and four years old are not properly immunized, according to Surgeon General Antonia C. Novello, M.D. The result: growing numbers of children are dying of illnesses we can prevent.

Measles, a disease we thought would be eliminated by now, is on the rise: 18,000 cases and 41 deaths were reported in 1989—the largest epidemic in more than 10 years. But 1990 was even worse, with 27,672 cases. Minnesota had 462 measles cases, 42 percent of which involved Southeast Asians living in St. Paul.

Children younger than five years old, particularly poor inner-city minority children, are at greatest risk. The problem is these children aren't getting immunized, many because they don't have a primary physician.

Minnesota has taken a step in the right direction with a new state law that will require all children entering the seventh and 12th grades to receive a second dose of measles vaccine starting in the fall of 1992. We now know that measles vaccinations are not as long-lasting as once believed, and subsequent doses will help ensure immunity.

Still, this change alone won't cure the problem, since nearly 47 percent of measles cases occur in preschoolers. In large part, parents are responsible for their children's health, but some think childhood diseases have been eradicated and believe the shots are unimportant. We must work with public health officials to educate these parents and to make sure all children get the shots they need.



"We must educate parents and make sure all children get the shots they need."

Vaccine Injury Claims

The American Academy of Pediatrics (AAP) took the lead in supporting legislation to provide compensation for children presumably injured by vaccines, specifically DPT. Although the intent of the legislation was sound, administrative problems have resulted in total disarray.

Currently, there is a backlog of 4,000 claims. In addition, 51 of 57 claims have been awarded for an average of $1 million each, even though a team of experts had recommended that only 21 of the 57 claims be awarded such an amount. Complicating the matter further is a surcharge that has been added to the vaccine's cost to finance the claims. The surcharge boosts the cost of immunization, resulting in poor compliance with immunization recommendations.

Responding to these and other problems, the American Medical Association House of Delegates passed a resolution at the organization's annual meeting in June asking for a government moratorium on awards to victims claiming DPT vaccine injury.

DPT, Rubella Vaccine Risks

Meanwhile, the Institute of Medicine concluded in early July that the benefits of DPT and rubella vaccines far outweigh their risks. The 11 pediatricians and public health researchers who directed the study found that, although the vaccines are linked to some adverse health effects in rare cases, the "causal relationships" are too unclear to warrant any changes in current policies regarding administration of the vaccines.

No Brain Damage from DPT

The AAP has issued its own statement saying there is no proof that pertussis vaccine causes brain damage. The statement is in accord with findings of the Canadian National Advisory Committee on Immunization and the British Pediatric Association. In reassessing data from reported instances, these groups concluded that clinical and laboratory findings cannot determine the vaccine's role in acute neurological disease resulting in brain damage. While pertussis vaccine can cause febrile seizures, the study failed to demonstrate that it causes chronic neurologic illness, and it found no evidence that a seizure caused by the vaccine increases the risk of epilepsy.

Acellular Vaccines

Studies in Japan, Sweden, and the United States suggest that a new acellular vaccine may replace today's cellular vaccine. Since acellular vaccines were licensed in Japan in 1981, the country's vaccination rate has increased, and reported cases of whooping cough have dropped. Currently, 12 or more acellular vaccines are undergoing evaluations in the United States, and a trial is scheduled for late 1991. MM

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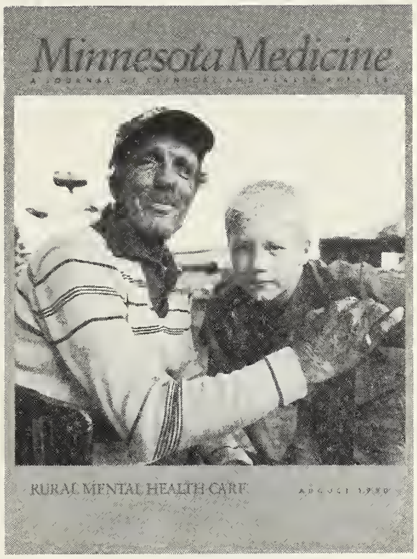
Bio-psycho-social Diagnosis: The Achilles' Heel of Medicine

In the June 1991 *Minnesota Medicine*, Charles E. Dean, M.D.,[1] criticizes the validity and development of the Diagnostic and Statistical Manual of Mental Disorders, Third Edition (DSM-III).[2] Referring specifically to my interview with Dr. Lewis L. Judd[3] in the August 1990 issue of *Minnesota Medicine*, Dr. Dean disputes the contention that the psychiatric diagnostic process is systematic, reliable, and valid. He challenges Dr. Judd's statement that some psychiatric disorders have treatment success rates of up to 80 or 90 percent.

The text of DSM-III systematically describes disorders in terms of current knowledge in the following areas: essential features, associated features, age at onset, course, impairment, complications, predisposing factors, prevalence, sex ratio, familial pattern, and differential diagnosis. It is important to point out that DSM-III is a multiaxial diagnostic system. It has five dimensions or parameters, each responsive in different ways to a bio-psycho-social diagnostic assessment. Axis I names the main or predominant psychiatric diagnosis or syndrome, such as schizophrenia or bipolar affective disorder; Axis II lists the description of personality characteristics; Axis III categorizes other medical diagnoses that are known and may affect the patient's health and/or functioning; Axis IV attempts to quantify independently the strengths of psychosocial stressors on the patient; and Axis V is a measurement of adaptive and/or social functioning. Obviously, such a comprehensive diagnostic statement may be of considerable value to treatment planning. Dr. Dean's description of the political process used in compiling the diagnostic categories is interesting, although I am not persuaded that other medical diagnoses escape similar political maneuvering.



I am in total agreement with Dr. Dean on one point: We do not as yet have a diagnostic system that describes, predicts, or correlates with mental disorders in terms of the biochemistry related to specific psychotropic drugs. Of course, we know that lithium carbonate will substantially forestall the incidence and prevalence of manic behavior in a population of individuals with bipolar affective disorder. I suppose we could name the disorder "lithium-responsive affective disorder." Similarly, "neuroleptic-responsive psychosis" might be a diagnostic label. The fact is, however, we do have effective treatments in psychiatry, and we achieve positive results in psychopharmacology largely through trial and error, using educated guesses and approximations.

I submit that Dr. Judd's contention that we can have "success rates" of 80 to 90 percent for treatment of mental disorders does not stretch the truth. Of course, how does one define "success" in treating mental illness? For that matter, how does one define success in treating any illness? Clearly, success and outcome criteria must relate to levels of functioning, symptom diminution, and the control and minimization of side effects. I would ask only that the same criteria be applied to all medical diagnoses and treatments when assessing psychiatry's effectiveness and results.

Dr. Dean's article, I believe, is obsessively critical about the shortcomings of descriptive diagnostic terminology and does not account for the true value of a multiaxial assessment. Further, Dr. Dean fails to acknowledge psychiatry's progress despite medicine's Achilles' heel: bio-psycho-social assessment and treatment planning.

Lee H. Beecher, M.D.
Psychiatrist
Minneapolis, Minnesota

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2. Diagnostic and statistical manual of mental disorders: DSM-III: 3rd ed. Washington, DC: American Psychiatric Association, 1980.
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Dr. Dean Replies

I thank Dr. Beecher for his attention to my article. Unfortunately, I believe he missed my point. His description of the multiaxial system of DSM-III and its derivative, DSM-III-R, is unrelated to my contention that the system was developed unsystematically, has limited reliability and even less validity.

Instead of addressing these issues, Dr. Beecher simply describes how the system is supposed to work and then notes that such a "comprehensive diagnostic statement" is of value in treatment planning. However, if the foundation of the diagnostic statement is seriously flawed, of what substantive value is the statement? Might not such a diagnostic statement carry a risk of serious error? I agree that a comprehensive assessment of the "bio-psycho-social" needs of the patient is potentially useful, but each segment of that assessment should be based on the best possible data, not on a system that *by its own admission* is based on consensus, acceptability, political considerations, and tradition. Further, Dr. Beecher seems to emphasize the usefulness of the system, but I was discussing its scientific merits. The two are not the same.

Dr. Beecher also objects to my comments on success rates in psychiatry and echoes Dr. Judd's statement that we have success rates up to 80 and 90 percent. However, he does not refute the studies I cited, and he offers no other studies to support his claims.

If Dr. Beecher truly believes that the critical factor in achieving progress in psychopharmacology is through trial and error and educated guesswork, he is not taking advantage of the extraordinary literature in this area. Granted, it may be flawed in some instances, but surely carefully done research will give the therapist better data than sheer guesswork.

As I understand him, Dr. Beecher seems to think that medicine in general has an Achilles' heel—a lack of "bio-psycho-social" assessment and treatment planning—and that I fail to recognize how much progress psychiatry has made in overcoming this defect. Dr. Beecher seems to imply that psychiatry has made more progress than other specialties. While intuition and pride lead me to hope that psychiatrists do a better job of providing a multifaceted assessment of patient's needs, I have no proof of it. Does Dr. Beecher? If so, I would like to see it. If not, the question deserves study.

Charles E. Dean, M.D.
Director, Inpatient Psychiatry
VA Medical Center
Minneapolis, Minnesota

Zumbro Valley on HIV in Health Care Settings

The recent disclosure that two HIV-infected Twin Cities physicians were treating hundreds of patients, and one potentially putting patients at risk, raises several questions. Although many of these questions remain unanswered, a number of groups, including state health officials, health care workers, government officials, and the public, are all seeking answers.

We at the Zumbro Valley Medical Society feel great concern and sympathy for patients who are worried about the possibility that they contracted AIDS from one of these physicians.

The Minnesota Board of Medical Examiners and the Minnesota Department of Health have worked hard to monitor the reporting of AIDS in Minnesota and have established high standards of practice for HIV-positive physicians. Physicians with AIDS, a reportable disease, are obliged to alter their practices to avoid the possibility of infecting patients. Ample evidence demonstrates that, with appropriate safeguards, the possibility of transmitting the virus is extremely low. However, it is obvious that the present system must be improved for better protection of patients and health care workers.

With help from State Epidemiologist Michael Osterholm and other infectious disease experts, the Zumbro Valley Medical Society's Legislation Committee is continuing to examine this issue. We are developing a comprehensive plan for HIV testing in low-risk populations. There is no evidence of a substantial risk to health care personnel or patients from ordinary contact in the health care setting. It appears that "universal precautions," a standard mechanism for treating hospitalized patients with infectious diseases that are far more transmittable than the HIV virus (such as hepatitis) are adequate to avoid transmission of HIV to patients or health care workers.

Furthermore, we are concerned about the high cost (ultimately to the public) of routine, periodic testing for HIV, unless it is proven to reduce the risk of transmission in the health care setting. We, therefore, continue to oppose universal mandatory testing of patients and health care workers. We believe the scientific facts known at this time (July 1991) do not support it. However, if mandatory testing is required for doctors, dentists, and health care workers, it should also be required for patients.

The Zumbro Valley Medical Society intends to continue working with legislators, educators, health care professionals, and the public to find solutions to the problems generated by HIV infection and AIDS.

J. Paul Marcoux, M.D.,
Chair, Legislation Committee
Zumbro Valley Medical Society
Rochester, Minnesota

Transforming the American Red Cross

Minnesota Medicine interviews Jeffrey McCullough, M.D.

Recent controversy surrounding the American Red Cross has put the blood bank system in the nation's headlines. In April, a Congressional subcommittee revealed a Food and Drug Administration report that accused the Red Cross Pacific Northwest regional office of sloppy record-keeping. Blood improperly or inadequately screened for hepatitis B and HIV, it said, was allowed to slip through the Portland, Oregon, facility's quality control system, although no contaminated blood was used for transfusions.

The Red Cross first came under criticism more than a year ago when an FDA investigation revealed that the national headquarters was plagued with record-keeping, management, and training problems. The Red Cross was faulted for allowing its 54 blood centers across the nation to operate as separate facilities with no central management.

Rep. John D. Dingell, D-Mich., who held hearings in April to address these problems, said that the nation's blood supply is safer than it has ever been, but concluded that "it is still not as safe as it should and could be."

The American Red Cross soon began restructuring to give its national headquarters tighter control, but recent events have led the Red Cross to plan a complete transformation of its national system. The transformation is led by Minnesotan Jeffrey McCullough, M.D., who is on a one-year leave from the Red Cross center in St. Paul and the University of Minnesota to direct the national ARC.

While several Red Cross blood centers across the country have been criticized for releasing blood before completing tests, no problems have been reported at the St. Paul center. In fact, when "60 Minutes" did a report on the nation's blood collecting system, it singled out the St. Paul center as an efficient operation. Time will tell if the facility will become one of the Red Cross's new regional distribution and testing centers, which will be started as part of the centralized testing.

In this month's interview, McCullough discusses the recent controversy surrounding the Red Cross system and outlines the transformation now underway.

Jeffrey McCullough, M.D.

"We'll go from blood banks developed during the 1940s and '50s to blood banks of the year 2000."

Minnesota Medicine: Dr. McCullough, you did an admiral job as director of the St. Paul Red Cross center, as reflected in recent news articles that were highly complimentary of that center. Now you have even greater responsibility with the American Red Cross in Washington, D.C. What is your new position and what does it entail?

McCullough: I am senior vice president of Biomedical Affairs at the American Red Cross. Biomedical Affairs encompasses the American Red Cross blood service, which handles about half our nation's blood supply, and Red Cross tissue services, which deals with cadaver bone, skin, dura, and other tissues used for grafting.

Minnesota Medicine: Many readers probably didn't realize the Red Cross deals with more than just blood.

McCullough: Actually, our blood service also includes the Plasma Derivative Program. The Red Cross retains control over plasma from the blood, and we have a contract with a company called Hyland to fractionate the blood and produce albumin, gamma globulin, intravenous gamma globulin, factor VIII, and other plasma derivative products. The Red Cross then makes the products available through its regional centers and staff.

Minnesota Medicine: Could you tell us a little about your education and training?

McCullough: I went to college at Northwestern University in Illinois and to medical school at Ohio State University. I completed my medical residency at Vanderbilt University and had clinical pathology training at the University of Minnesota.

Minnesota Medicine: You now have an appointment on the University of Minnesota faculty?

McCullough: Yes. I have been responsible for the blood bank at the University Hospital in addition to the Red Cross blood center in St. Paul.

Minnesota Medicine: Please tell us how your Washington appointment with the American Red Cross came about and what the ARC wants you to accomplish.

McCullough: Last summer my predecessor, having served ARC for 11 years, decided he wanted to move into general public health. The Red Cross was searching for someone to handle some specific and urgent situations and asked me if I would be willing to assume those responsibilities. I wanted to accept the challenge, but I wasn't prepared to pull up stakes in Minnesota and make a permanent move. I agreed to take a one-year leave of absence from the university and the St. Paul Red Cross to work for the American Red Cross in Washington.

Transforming the System

Minnesota Medicine: Elizabeth Dole, former secretary of transportation and now the Red Cross president, recently announced that the Red Cross is installing a new centralized testing and record-keeping system. What does this entail?

McCullough: This entails a complete transformation of the American Red Cross blood service. The new system will include more than centralized testing; that's just one part of it. In recent years, the complexity of blood banking has increased dramatically, particularly since the AIDS epidemic. Before 1985, we did two transmissible-disease screening tests, for hepatitis B and syphilis. From 1985 to 1990, five additional tests were added. As a result, the American Red Cross system did approximately 100 million more blood screening tests during the second half of the 1980s than it did during the five years between 1980 and 1985. One hundred million more tests!

We've seen clear evidence that these tests have made the blood supply safer, but they've also increased the complexity of the system. We have to handle additional data and must counsel donors with positive tests. We need more sophisticated mechanisms for controlling the inventory so we can be sure potentially infectious units of blood don't slip through. The blood banks need to move out of the traditional operating mode they've been in for the last 40 years; they need to function less like laboratories and more like pharmaceutical manufacturing operations with rigid standardization and tight controls. Even though the blood supply is safer than it has ever been, we find that the old system doesn't lend itself to the kind of rigid control and handling we need. We can no longer alter the old system in a piecemeal fashion.

Minnesota Medicine: So no Band-Aids?

McCullough: No Band-Aids. We can't just change a procedure here and a procedure there and hope to get control of the situation. Nothing short of a transformation will get the quality and the regulatory compliance of the blood system where we want it. As part of the transformation, which will take place over the next two and one-half years, the Red Cross will install a single computer system and implement uniform standard operating procedures in all its facilities. Each facility will temporarily suspend operation so we can completely change the operation, making it state-of-the-art. Basically, we'll go from blood banks developed during the 1940s and '50s that have gradually grown in a topsy-turvy way, to blood banks of the year 2000. Because the American Red Cross is a national system, we can provide blood products from other Red Cross centers and, thus, carry out this transformation without interrupting patient care.

I want to emphasize that we're not doing this because of enormous failures or problems today. The blood banking system in this country is doing an outstanding job of eliminating potentially infectious units. But, as procedures become more complex, we simply can't continue to build on the old way of doing things.

Safety of the Nation's Blood Supply

Minnesota Medicine: What is your response to charges made by Rep. John Dingell, chairman of the Energy and Commerce Subcommittee on Oversight and Investigation, that the nation's blood supply is not as safe as it could be?

McCullough: As I stated, the blood supply is safer than it's ever been. For instance, at the hearing Congressman Dingell held, the Food and Drug Administration provided a chart showing the estimated probability of infection. The chart showed that transfusion-transmitted disease declined during the 1980s. I think Congressman Dingell's point is that he wants blood banks to do absolutely everything reasonable and medically possible to ensure our blood supply is as safe as it can be. The blood banks have done a good job of that, but now we need a complete transformation.

Let me give you an analogy. If we were Merck or Upjohn, operating in about 60 locations throughout the United States, as the American Red Cross does, the FDA wouldn't allow us to make penicillin tablets in 60 different ways, yet that's what the Red Cross does. Standardization will ensure a standard level of quality at all facilities. Employees will follow national training standards and will complete a standardized training program.

Minnesota Medicine: It must have been embarrassing for the American Red Cross that its Pacific Northwest Regional Office in Portland, Oregon, was charged with sloppy record-keeping and computer errors, which allowed distribution of several units of blood inadequately screened for hepatitis B or HIV. I gather the report was more smoke than fire. Would you comment on that?

McCullough: It is embarrassing because it's not the kind of operation we want to run, and it's not the kind of operation I can tolerate.

I don't in any way mean to minimize the importance of the findings, but the charges sound worse than they are. During the Dingell hearings, we debated the FDA terminology on the release of unsuitable blood. An unsuitable unit of blood is any unit that has some incomplete or inaccurate piece of documentation related to its collection, processing, or testing. This can be anything from a serious problem with testing, to a minor error such as an improperly checked box on the donor history form. While the observations are important, and we're trying to correct the problems, no patients received infectious blood transfusions as a result of these problems.

Minnesota Medicine: In other words, the charges do not mean that anyone suffered.

McCullough: That's the important point. There's no evidence that any patients were adversely affected. Nonetheless, we take the situation very seriously. This is the type of problem we expect the transformation to correct.

Minnesota Medicine: There are about 2,400 blood banks in the nation. A large percentage of those are commercial blood banks. How will the ARC's transformation affect commercial blood banks?

McCullough: The Red Cross is acting aggressively to deal with an enormous change in the blood banking environment. The public, the Congress, and the FDA are all saying they expect blood banks to behave radically differently than they have been. We are responding to these concerns and expect to be leaders in changing the system of blood banking. It's possible that other blood banks will find it difficult to respond to the FDA and Congress and institute these kinds of changes. We are not in a position to control that. We have to deal with our own situation and be the best we can.

> "Nothing short of a transformation will get the quality and the regulatory compliance of the blood system where we want it."

Testing for HIV-II

Minnesota Medicine: Do you anticipate any new testing procedures or techniques?

McCullough: Yes, we do. We have two applications for investigational new drug studies that we're preparing to submit to the FDA, each dealing with additional tests. One of these is an antibody test for HIV-II, the second AIDS virus. The other is a test for the HIV-I antigen.

Currently, no organization, not even the Centers for Disease Control, the Public Health Service, or the FDA, recommends routine screening for these viruses, but we want to be sure we are monitoring the situation.

Minnesota Medicine: I understand that there have been several reported instances of HIV-II in the United States. Is that correct?

McCullough: That's right. However, all blood donors with HIV-II would have been identified through our normal donor questioning procedures or testing for HIV-I, so there's no reason to believe that widespread routine HIV-II screening is necessary at this point. We believe routine testing will be necessary at some point, and we have surveillance systems in place so we'll know when the HIV-II virus becomes apparent in the donor population. We also want to have an investigational drug protocol pre-approved by the FDA so we can promptly implement the new HIV-II test, even if the FDA hasn't licensed it by the time we need it. We want to be able to move quickly.

Donor Screening

Minnesota Medicine: A recent article in the *American Journal of Public Health* reported on HIV-I-positive blood donors in Miami. The report stated that about 20 percent of those who sold blood subsequently tested HIV positive and about 13 percent of those who gave blood tested positive. How do you propose to deal with this problem?

McCullough: It's a very serious issue. We need to improve the phrasing of questions for screening donors. A study from San Francisco showed that in 1985 the donor questions eliminated about 90 percent of the infectious donors. The FDA has funded an ongoing project to rephrase the screening questions and develop videos and visual aids to help donors determine whether they've been involved in behavior that puts them at risk of HIV infection.

Most blood banks also use a mechanism called confidential unit exclusion. This is a system whereby a person can go all the way through the blood donation process but tell us anonymously at the end not to use the blood for transfusion. This is important to the person at a large blood drive who knows he might have been exposed to AIDS but is with all his friends and coworkers and can't figure out a way to get out of donating blood.

Unfortunately, despite all these efforts, we find that there is a very small number of people who are either dishonest about their history or don't know that they are at risk for AIDS.

The Window Phase

Minnesota Medicine: That leads into my next question, which is about the time that elapses between contracting the virus and testing positive for the virus. Is there a solution for this delay?

McCullough: There's not an easy or immediate solution. Let me describe what we call the "window phase." It refers to the time when an individual is infected with the HIV virus, but for a period of weeks or, as some researchers believe, months, the HIV-antibody test result is negative. The blood is infectious during this period. No laboratory test is currently available that identifies these donors, so their histories are very important. If people know they've engaged in some behavior that puts them at risk for AIDS, they've got to tell us. The problem, as I just mentioned, is that some people do not realize they are at risk for AIDS. This could include a woman who had sexual contact with a bisexual man but doesn't realize the man is at risk, or a person who doesn't realize his or her sexual partner is abusing intravenous drugs. These people may be at risk for AIDS, but they can pass all the FDA criteria, properly answer all of our questions, and donate blood. We need to improve the laboratory tests to detect these people during the window phase.

A lot of research is going on now, but no test will be available in the very near future. The HIV-antigen test, which tests for the actual virus, appeared promising. However, about a year ago, a study reported that out of a half-million American blood donors screened using this test, not a single HIV-positive person was identified who wasn't also identified with the currently used antibody test. It appears that this HIV-antigen test isn't going to be of help, but the Red Cross is going to test another half-million donors to be sure the test doesn't identify at least a handful of potentially infectious donors.

Polymerase chain reaction testing is another possibility. The procedure involves looking for minute amounts of viral DNA and then expanding the amount of that DNA to a point where it can be detected. This approach might improve our ability to detect these infectious window-phase donors by detecting a very small amount of virus. However, the procedure is very complex, and we have no practical way to use it to screen 12 million units of blood per year throughout the United States.

Minnesota Medicine: The risk that a donor is HIV-infected must vary by region or geography. Is that right?

McCullough: Yes. The incidence of a positive HIV test in our regular donor population varies quite a bit among different regions in the United States. For instance, the Red Cross center in Minnesota collects about 200,000 units of blood a year, and I believe we found only one HIV-I positive donor in the last couple years. In certain other areas, the rates would be much higher.

Misconceptions About Donating

Minnesota Medicine: Despite our best efforts to educate the public, some people still think it's risky to donate blood or to volunteer at a collection center. Have you encountered these misconceptions?

McCullough: Yes. However, volunteers are typically involved in activities that do not put them in direct contact with blood. Where there's potential contact with donor blood, the work is usually done by staff people.

As you know, it is completely erroneous to believe a person can get AIDS by donating blood. There's absolutely no basis for that kind of belief. Every needle and every blood bag is sterile and used only once. There is no reason to think that anybody could become infected by donating blood. As a matter of fact, we need all the donors we can get. MM

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Depression

Having It Made Me See

While I was making rounds as a medical student at the old Martland Hospital in Newark, New Jersey, a depressed patient jumped from the seventh floor and fell to his death on the balcony outside pediatrics. This was my earliest exposure to psychiatry ... or its failures.

Only now, 20 years later, do I understand that depression is less exotic than the common cold. Depression is very real and painful. It is not a character or personality disorder, but a correctable, sometimes disabling, condition that is inherited.

Screams in the night at the New Jersey Neuropsychiatric Institute dorm, where I stayed with four others on my psychiatry rotation, introduced me to the pits of psychic disintegration. I didn't know it then, but depression, which can masquerade as an inability to produce in school or work, *is* correctable. It can surface as the inability to perform in life's many relationships. For me, it surfaced as repetitive failure in college, medical school, and on boards. A vicious cycle of failure produced and sustained my depression.

But how am I a failure—a physician, an internist? Despite my many successes, it was part of the nature of my untreated depression to continually question what I could contribute to humanity—always expecting too much of myself.

Now I sit watching bees glide above me. At last I feel good after two decades of uncontrollable ups and downs from a depression I can only now understand and accept.

In the midst of my own depression, I was unable to relate to others with similar symptoms. Part of an intern's job at the old Baltimore City Hospital was handling crisis problems from the ER. "How can anyone be that depressed?" I asked myself, weakly offering advice to a depressed caller. "Why don't you turn on the Olympics?" I suggested, unable to empathize with the caller's emotional pain.

As I grew older, I began to realize my own pain, although as a green and unworldly intern, I had no idea there might be some chemical deficiency (serotonin?) making me more susceptible to life's traumas. I was one to carry the world's pain on my back. Come fall or spring, when indecision or failure created panic, depression would creep insidiously back into my life.

Plenty has happened to bring me down, including my mother's emotionally complicated death and the loss of a newborn child. Saddled with more responsibility after our fourth child is born, my mood plummets even further. Once again, spring comes and my nervous system is depleted of the chemicals that could stabilize my mood. "Why don't you just give antidepressants another try?" asks my wife, all too familiar with my years of seasonal mood oscillations.

> "In the midst of my own depression, I was unable to relate to others with similar symptoms."

Physicians only reluctantly admit any vulnerabilities to their colleagues, buddies, or spouses. For years I denied I had a mood disorder—regardless of how it affected my life or relationships. After all, doctors are supposed to be perfect. Wasn't I?

It wasn't until long after residency, as I wrestled with each new phase in my life, that I came to realize I was suffering from the same kind of depression as that unfortunate caller who had disturbed me on rounds years ago. Finally, I began to understand that the same dysphoria could still my pen, slow my bowels, limit my sex, or ruin my sleep. I realized that I had become the patient.

After several unsuccessful attempts with different antidepressants, I am now able to rejoin my family. Now on fluoxetine (Prozac), a "clean" new antidepressant, and a low dose of lithium, I feel my energy returning. I can appreciate the joyful sounds of wrens and the shimmer and warmth of the sun's energy as it plays over my garden. "My God," my wife recites over and over. "It's like being with a totally different person."

And I am again a physician, better able to relate to my patients' emotional needs. As I leave the examining room, I comment, "Mr. Johnson, you really sound depressed. You came to the right place. I can help you." MM

Author's name withheld upon his request.

Minnesota Medicine *invites you to submit essays, personal experience stories, and opinion pieces (up to 2,500 words) on any topic but preferably related to medical practice in Minnesota to:* Minnesota Medicine, *2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414.*

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A message from The American Medical Association for the Health Access America Propos

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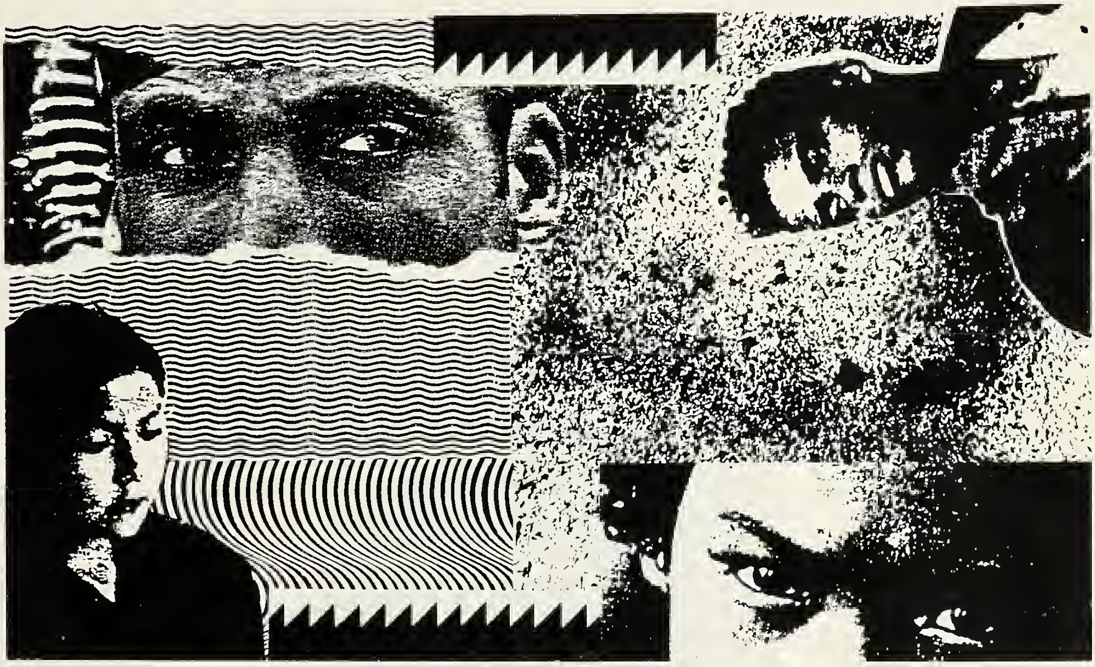

ILLUSTRATION BY SHANNON BRADY

Out from the Shadow of Tuskegee

Fighting Racism in Medicine

By Beryl Byman

Associated Press reporter Jean Heller wrote a story in 1972 that shocked the American public. It revealed what is now an infamous episode in American medicine: the Tuskegee syphilis experiment. The story was frighteningly simple.

To study the natural course of syphilis, 400 subjects suffering from the disease were deliberately left untreated for four decades. All the subjects were rural, impoverished, uneducated black males living in Macon County, Alabama. The study continued until a Public Health Service employee leaked the story to the press in 1972.

Ironically, the Tuskegee study that ended in disgrace began with the best of intentions. When the clinical trials started in 1932, the investigators from the Public Health Service and the Tuskegee Institute believed they were helping these indigent black men receive medical care. Though there was no safe and effective cure for syphilis then, the subjects did initially receive the best-known treatment.

But when funding for the project stopped, investigators did not tell the subjects that their treatment ended. Instead, the men were led to believe they were receiving special medical attention from Public Health Service physicians. The Public Health Service continued to study the natural course of untreated syphilis—30 years after the discovery of penicillin as a cure for the disease.

The Shadow of Tuskegee

Medical racism didn't end when the Tuskegee experiments were halted in 1972. While Tuskegee spurred new laws to prevent abuse in research, it didn't stop the subtle racism that black Americans and other minorities experience in the health care setting. Nearly two decades later, troubling stories of racial discrimination in medicine still appear in the media.

A series of stories by Susan Stanich in the Duluth *News Tribune* chronicles the racism that confronts Minnesota's American Indian population. She tells the story of Joe Shabaiash, a 70-year-old Chippewa who in November 1989 was rushed to a hospital in Northern Minnesota after experiencing signs of a heart attack. Emergency physicians sent Shabaiash home untreated on two different occasions before he went, instead, to St. Mary's Medical Center in Duluth, where hospital records show he was immediately admitted to cardiac intensive care.

Stanich quoted others who said Shabaiash's treatment is typical of that received by American Indians. Not all workers are racist, they said, but, overall, the health care delivery system is steeped in racism.

Those who dismiss the Tuskegee experience as a thing of the past might be surprised by the comments of Kathleen Annette, M.D., a Chippewa Indian physician and area director for the Indian Health Service in Bemidji.

"I have experienced prejudice," she said, "personally and professionally, on every level, from patient to physician." Annette said she is continually amazed that racism still exists. "I somehow imagined that I would see less racism with more educated people. But it's still there. It's simply less overt."

ILLUSTRATION BY SHANNON BRADY

Symposium—Race, Prejudice, and Health Care

In response to the racial discrimination evident in today's health care system, three Twin Cities institutions held a symposium to consider the problems of race, prejudice, and health care in light of the Tuskegee medical experiment.

The Tuskegee experiment was an "outrage that should never happen again," said Health and Human Services Secretary Louis Sullivan, M.D., at the symposium, which was sponsored by the Urban Coalition, the Illusion Theater, and the University of Minnesota Center for Biomedical Ethics. More than 400 people gathered at the Illusion Theater June 1 to discuss ethical, social, and political issues related to race and health care today. The symposium concluded with a fictionalized version of the Tuskegee Experiment: the Illusion Theater's production of "Miss Evers' Boys," a play by physician/playwright David Feldshuh.

The symposium's focus on the Tuskegee experiment led to discussion of racism in our health care system today and the reasons for disproportionate health care problems among the nation's minority populations.

"It is shocking that, in 1991, black Americans and other minorities face a greater risk of cancer, AIDS, heart disease, stroke, and many other diseases," said Sullivan.

The Statistics

A 1991 Health and Human Services annual report on American health indicates a sharp decline in life expectancy for American blacks as compared with whites. As a result of a variety of genetic and socioeconomic causes, mortality rates due to certain diseases are alarmingly higher for minorities.

The statistics, both national and local, shock:

- The mortality rate for black and American Indian infants is double that of whites, and life expectancy for black Americans is six years less than for whites, according to the Department of Health and Human Services.

- The rate of stroke in blacks is almost double that of whites. In the 35 to 54 age range, the rate is four times higher, reported the November 1990 issue of the *International Journal of Epidemiology.*
- The leading cause of early death for young black men age 15 to 24 is homicide, according to the Centers for Disease Control. In 1987, 42 percent of deaths among young black men resulted from homicide, up 40 percent from 1984.
- Indians age 15 to 24 experience the nation's highest death rate from accidents, an event closely associated with alcoholism. The American Indian death rate from liver disease is 327 times higher than that of other Americans.
- "In the United States, the relative risk of end-stage renal disease is about fourfold higher [for blacks] than for whites. ... For adult Native Americans, the overall risk ... is approximately threefold higher than for whites," reports the January 31, 1991, issue of *The New England Journal of Medicine.*
- "The prevalence of obesity is greater among blacks, especially black women, and increases with age," reported University of Minnesota professor Aaron Folsom, M.D., in the February 1991 National Heart, Lung and Blood Institute *Infomemo.* "Obesity," the report continues, "is associated with a substantial proportion of diabetes, hypercholesterolemia, and hypertension in young and middle-aged blacks."
- HIV infection is spreading most rapidly among blacks and Hispanics, revealed the *Journal of Health Politics, Policy and Law* in its Summer 1990 issue.
- Nonwhite residents of Minnesota had a life expectancy of 66.3 years compared with 75.1 for whites in 1978 (the most current year for which data are available), according to an Urban Coalition report on minorities.

> "It is shocking that, in 1991, black Americans and other minorities face a greater risk of cancer, AIDS, heart disease, stroke, and many other diseases."
>
> —*Louis Sullivan, M.D.*

Why the Greater Risk?

For ethnic groups living in America, it is important to distinguish between conditions of poverty that foster disease, lack of access to health care, fear and distrust of the health care system, and genetic predisposition to disease, which researchers don't always take into account in medical practice and research.

POVERTY The Tuskegee subjects were unwilling martyrs, victims of class as well as race, said symposium participant and former vice president Walter F. Mondale, who served as vice-chairman of a Senate panel that investigated the Tuskegee experiment. "They were impoverished. They were politically impotent. They had the most despised disease possible, and they lived in a culture that every minute taught them how worthless they were."

Bill Jenkins, an epidemiology professor at the Morehouse School of Medicine, agrees that the Tuskegee subjects were victims of class. Although numerous black health care workers from Tuskegee participated in the program, not one raised his or her voice against the study. Jenkins, who is black, said he believes a racist system allowed the Tuskegee experiments to take place but concludes that the study would not have been performed on middle- or upper-class blacks.

Of all the factors that account for higher disease rates between blacks and whites, perhaps the most pernicious is poverty. In his new book, *The Promised Land: The Great Black Migration and How It Changed America,* Nicholas Lemann describes a permanent American underclass made up primarily of urban, impoverished blacks. Many of these people, Lemann says, were originally Southern sharecroppers who found themselves without a means of livelihood in the late 1940s, after cotton picking became mechanized. Beginning in the 1940s and early 1950s, they migrated to Northern cities, where they hoped to extricate themselves from grinding poverty. Those who were successful swelled the ranks of the black middle and working classes. Unfortunately, the unsuccessful went from rural poverty to urban poverty.

This group's lack of education or marketable skills, combined with entrenched racism, has created a never-ending cycle of poverty passed on from generation to generation. The disintegration of the black family, rampant drug use, violent crime, and inadequate public education create staggering obstacles. Young black males find it difficult to escape from an environment in which homicide is the leading cause of death. The sheer scope of this problem has thus far overwhelmed even the most ardent reformers.

Today, 30 percent of black Americans live in poverty compared with 12 percent of whites. Nowhere are these economic differences more personal and direct than in health care. Poverty, with its detrimental effects on education and lifestyle, is the primary reason disease kills thousands of indigent blacks whose illnesses could have been prevented or cured with commonplace therapy.

Because blacks and other minorities are often on the lower end of the socioeconomic scale, they also often get a different kind of care, says University of Minnesota epidemiologist John Flack, M.D. "If you are poor in Minneapolis, by the very nature of the system, you can get acute care—if you break your arm, for example. But it is more difficult to get preventive care. You are less likely to have your cholesterol treated with expensive cholesterol-lowering medication."

HEALTH CARE ACCESS Lack of health care access is one result of poverty in the United States. Gordon Schiff, M.D., director of the General Medicine Clinic at Chicago's Cook County Hospital, uses battlefield terminology to describe what lack of access means to the poor. "We have 1,000 people a day coming to see us. Half to two-thirds have to wait eight to 10 hours to be seen. So we need to decide who can safely wait and who we need to get in and see in an hour. ... I think the kind of triage that is also occurring externally is causing these people to wash up on our shore." Those who do not survive the "wallet biopsy" end up at Cook County, Chicago's hospital of last resort for the city's poor.

Statistics on health care access for blacks provide grist for the health care mill. Figures released by the Pepper Commission show that 81 percent of white people under 65 have health insurance. Among minorities, only 58 percent of blacks, 54 percent of Mexican-Americans, and 51 percent of Puerto Ricans have health insurance. In America, racial and ethnic disparity result not only from higher unemployment but from underemployment as well. Blacks and Hispanics are more likely to work as migrant workers or in low-paying service jobs, where health insurance is meager at best and more often nonexistent.

Debate over burgeoning health care costs has prevented Congress from agreeing on a national solution. A federal health care plan for the estimated 31 to 37 million uninsured and underinsured has not yet materialized. The result is continued poor health care for 15 percent of the population, many of whom are minorities.

"It is not a coincidence that the United States of America and the Republic of South Africa—the only two developed, industrialized countries that do not have a national health policy—have substantial numbers of underserved people who are different ethnically from the controlling group," states editor George Lundberg, M.D., in a May 15 *JAMA* editorial. With health care costs spiraling relentlessly upward, government emphasis remains on controlling costs, not extending care.

FEAR AND DISTRUST The Tuskegee project had its roots in a history and tradition of institutionalized medical racism. University of Wisconsin professor Vanessa Northington Gamble, M.D., explained that before 1865, slaves were often the subject of medical experimentation. In the wake of slavery came the pervasive belief that some groups of people were subhuman.

Such beliefs, combined with distorted assumptions about unrestrained black sexuality, led to a tragedy recounted by Cassius M. Ellis, M.D, a clinical professor of surgery at the University of Minnesota. Some of his elderly, black patients claim that years ago, after giving birth to illegitimate children, they were subjected to hysterectomies without their sanction.

This history of racism in medicine has led minorities to fear and distrust the American health care system. Thus, it is not surprising that rumors of a medical conspiracy against blacks hovered on the fringes of the Tuskegee symposium. One participant suggested that not only did the Tuskegee subjects go untreated, but that researchers actually infected them with syphilis. ABC medical correspondent George Strait, who moderated the symposium, said that the black taxi driver who took him from the Minneapolis airport to the conference site was convinced that whites today are deliberately infecting blacks with the AIDS virus. Another conference participant suggested that white geneticists are deliberately attempting to manipulate black genes.

Jenkins quickly dismissed racial conspiracy theories. "We need to understand that this [Tuskegee] was never a decision that was made; it was a process. At each point people made choices that resulted in tragedy."

> "I somehow imagined that I would see less racism. But it's still there. It's simply less overt."
>
> —*Kathleen Annette, M.D.*

Nonetheless, widespread feelings of hopelessness and distrust persist. As evidence of that distrust, Kenyari Bellfield, health program officer for the Urban Coalition, describes how some black women are reluctant to visit clinics, even if they suspect they are ill. "There is a high degree of sexually transmitted diseases in blacks, most of which are treatable and all are preventable through community education." Black women, she continued, particularly those who have been treated without respect by the medical community, experience shame. "They feel that they are fulfilling historical stereotypes about promiscuity and are fearful of being labeled accordingly."

Difficulty recruiting minorities for research is also a result of distrust, says Flack. "It's important to include minorities in medical research because there are differences across racial and ethnic categories. But the African American community is skeptical of research; there's a prevailing attitude that their lives are not valued the same as others' in society."

As a result of Tuskegee, blacks fear researchers would experiment with their lives in ways they wouldn't with others' lives, says Flack. "The element of trust simply isn't there."

The Use and Abuse of Race in Medicine

MEDICAL RESEARCH The appropriate use of race, gender, and class in clinical research is important because it can clarify potential genetic differences between people of varying races. The dramatic results achieved in treating sickle cell disease, an illness for which blacks have a genetic predisposition, show how scientists can use racial distinctions productively. Research design systems that include racial diversity can shed valuable light on diseases prevalent in different populations.

But if researchers fail to include race and socioeconomic factors in the design of clinical studies, the results can be confusing and misleading. Consider the following example.

A Veterans Administration study of persons with HIV infection suggested that black and Hispanic subjects do not benefit from early AZT therapy. However, a similar study by the National Institute of Allergy and Infectious Diseases (NIAID) showed no racial difference in AZT effectiveness.

Complex socioeconomic conditions, rather than genetic differences, may be the reason why black and Hispanic subjects did not benefit in one study. "The VA study had a higher proportion of intravenous drug-using participants, and a higher proportion of these were black and Hispanic," reports the March/April 1991 *NIAID AIDS AGENDA* newsletter. Harvard University professor Stephen Lagakos also points out that participants were at different disease stages when studied, which could lead to differences in AZT effectiveness. To eliminate this kind of uncertainty, San Francisco General Hospital is now beginning a separate study to determine if AZT is as effective in blacks and Hispanics as it has shown to be in whites.

ILLUSTRATION BY SHANNON BRADY

MEDICAL PRACTICE Consideration of race and socioeconomic factors can also clarify problems in medical practice. Take, for example, statistics on blacks and end-stage renal disease: Blacks suffer from kidney disease in greater numbers than do whites, but proportionally fewer blacks receive kidney transplants. On the face of it, this disparity would suggest that the Tuskegee tradition is alive and well in medical practice.

But close examination reveals that the problem is more than just racism. The combination of poverty, lack of access to health care, distrust of the health care system, and genetic factors all contribute to blacks' higher death rates from kidney disease.

- Blacks are less likely than whites to donate a kidney to a relative, according to an article in the January 31 *New England Journal of Medicine*. Howard University medical geneticist Robert Murray Jr., M.D., says blacks fear they will not receive adequate medical care if identified as potential organ donors. The article also attributes the reluctance of blacks to donate organs to religious beliefs and lack of information about organ donation programs.
- There are racial differences in ABO blood groups and histocompatibility antigens. Careful matching of a kidney from a member of the same race is very important for kidney survival. Because blacks comprise 28 percent of patients but only eight percent of donors, adequate numbers of compatible organs are difficult to find. Thus, survival rates for blacks are significantly lower than for whites.
- Medicaid is often the only means of health care payment for blacks. Because Medicaid does not cover transplantation in many states, poverty contributes significantly to the lower rates of transplantation in blacks.

The Lessons of Tuskegee

To prevent the tragedy of Tuskegee from ever recurring, Congress passed legislation to prevent abuse in research. Today, the twin protections of the Institutional Review Board (IRB) and informed consent work as safeguards against experimentation abuse. Institutional Review Boards not only ensure that information disclosed to human subjects is fair and accurate but also that research is well-designed and has a clearly identifiable goal.

Still, some people believe that Institutional Review Board effectiveness can be strengthened. Arthur Caplan, director of the University of Minnesota Center for Biomedical Ethics, suggested at the symposium that IRB members be allowed to interview clinical subjects after completion of the experiment. A follow-up interview would provide a "feedback loop" to guarantee that the informed consent forms actually covered the experiment protocol. Closer scrutiny would afford yet another means of assuring that participants really understood the experimentation process when they signed the informed consent form.

Another means of preventing discrimination would be to develop a system to include adequate representation by race, gender, and class in human experimentation. Researchers today cannot assume that drug effectiveness for 50-year-old white men will be similar for American Indians, blacks, and women.

While new laws have made a difference, racial discrimination still exists in the daily provision of health care. At the conclusion of the Tuskegee symposium, Minneapolis public health nurse Patricia Walker asked participants to put themselves in the place of a poor, uneducated, uninsured black person attempting to gain access to the health care system. "Imagine," she said, "that you are ill in a foreign country. The last bus has left, you can't speak the language, and the hospital is 175 miles away."

The picture appears grim, but a panel of Minnesota health care leaders concluded that change is possible. In an attempt to exorcise the ghosts of Tuskegee, they suggested that the medical community can reduce prejudice in health care by:

- Maintaining a greater recognition of past discrimination in minority health care. Accounts of the Tuskegee experiments as well as Nazi medical experimentation can be built into the medical school curriculum. Awareness of this dark side of medical history can provide insight into individual physicians' own possible biases and prevent similar events from happening in the future.
- Recognizing the socioeconomic factors that lead to a two-tiered American medical system and the obstacles that exclude the poor from obtaining medical care. Armed with such information, the medical community can provide political leadership that will ensure access to the health care system for all Americans.
- Building a system of trust between health care workers and minority populations. Trust will be strengthened by communicating with patients in clear, easily understood language and by treating patients with respect and dignity. Perhaps the most important element in building trust between doctor and patient is honesty. Treating patients with respect and honesty can begin to reverse the legacy of distrust.
- Undertaking multi-directional reform in education and research. Patient education should focus on behavioral changes to prevent disease. Medical education should be directed to increasing minority representation among health care workers. Clinical studies should include appropriate representation of race and gender.
- Including awareness of cultural, ethnic, and religious diversity in physician education. A physician who is treating a Southeast Asian patient may find as many as 25 family members in the hospital room. Physicians who understand the extended family concept in Southeast Asian culture will be better able to communicate with the patient.

The Tuskegee experiment added a shameful footnote to American medical history, but its roots extend beyond the medical community to reflect ills of the larger society: unemployment, inadequate education, and poverty.

"The issue is largely political and social," says Flack, adding, "We as a country must come to grips with discrimination."

But the other side of the issue involves all of us as individuals, believes Flack. "The best way to prevent discrimination," he said, "is to critically examine yourself, admit to your biases, and then check those attitudes at the door—leave them at home." MM

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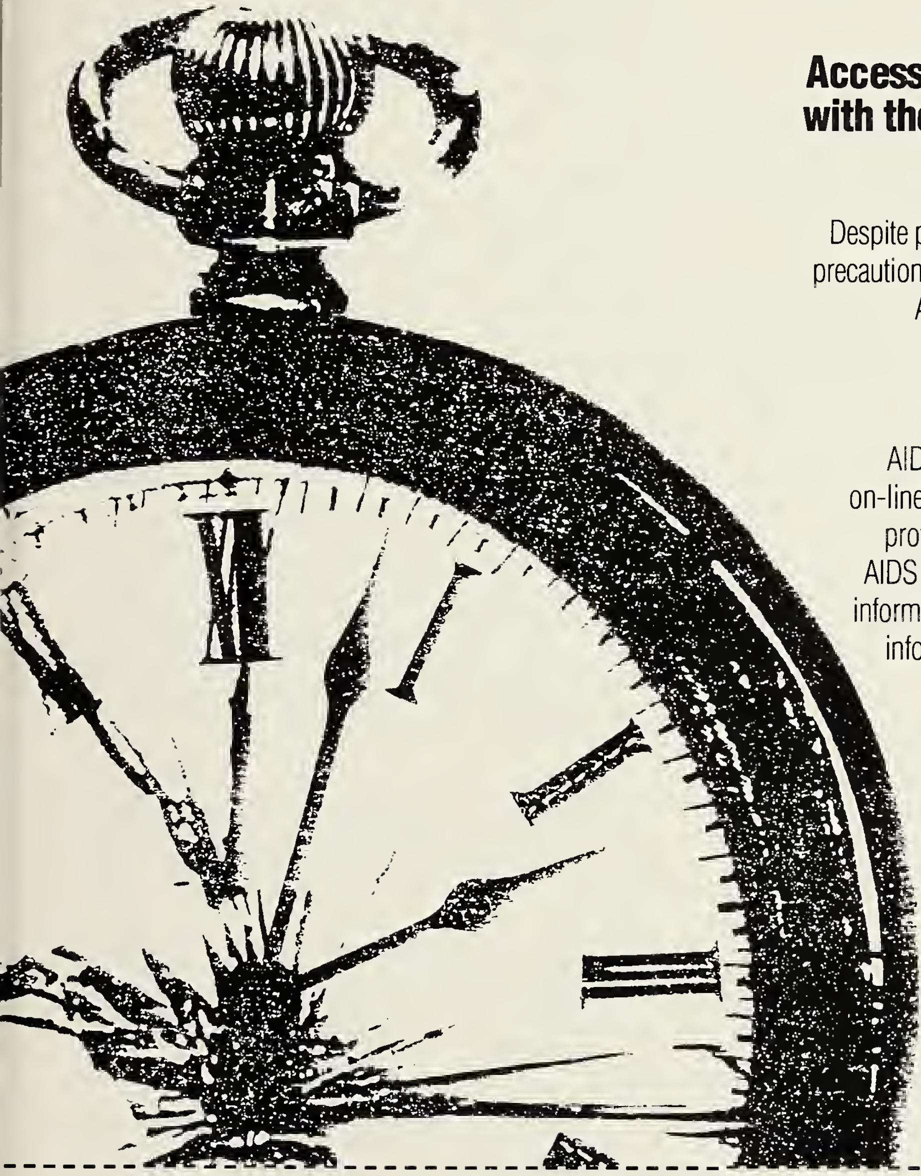

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Incidentally Discovered Adrenal Masses

Robert H. Caplan, M.D., F.A.C.P., William A. Kisken, M.D., and Christopher M. Huiras, M.D.

ABSTRACT

This report describes a retrospective study of 23 patients with incidentally discovered adrenal masses. Two patients with subclinical cortisol secretion developed adrenal insufficiency after removal of benign adenomas. Another patient, who probably harbors an asymptomatic pheochromocytoma, developed a hypertensive crisis when a mass was palpated during aortic vascular surgery. Twelve patients underwent surgery. Seven benign adenomas, an angiomyolipoma, and a cyst were removed. Three patients had malignant masses that included an angiosarcoma, an adrenal adenocarcinoma, and a congenital neuroblastoma.

We conclude that hormones, especially cortisol, may be secreted in subclinical amounts by incidentally discovered masses. We recommend a concise laboratory evaluation that includes an overnight dexamethasone suppression test. Based on our interpretation of the literature, we believe masses greater than 3 cm in size should be removed. Patients who do not undergo surgery should have computed tomographic scans repeated for one year and should be reassessed periodically for the development of hormone secretion.

Adrenal masses are occasionally found incidentally during radiologic evaluation for unrelated problems.[1-14] These masses may be discovered by intravenous pyelography (IVP), arteriography, ultrasonography, and most commonly in recent years, by abdominal computed tomography (CT). Incidentally discovered adrenal masses are thought to be nonfunctional, and some authors believe these so-called incidentalomas are of little clinical importance. In this paper, we describe the Gundersen Clinic's experience with 23 patients who had incidentally discovered adrenal masses. Three of the masses were malignant. Two patients had autonomous cortisol secretion that resulted in adrenal insufficiency after benign adenomas were removed. Another patient developed a hypertensive crisis when the mass was palpated during abdominal aortic surgery. Thus, our experience suggests that the incidentally discovered adrenal mass is clinically important in a substantial number of patients.

Materials and Methods

We reviewed the medical records of all patients treated for adrenal disease at the Gundersen Clinic and La Crosse Lutheran Hospital between 1976 and 1988 and found 23 cases of incidentally discovered adrenal masses. We considered a lesion to be incidental if a radiologic study was obtained without clinical suspicion of adrenal disease.

Aldosterone secretion was assessed by measuring serum potassium, and occasionally, urinary aldosterone excretion. Cortisol secretion was evaluated by measuring plasma and urinary cortisol and urinary 17-ketogenic steroids and by performing an overnight dexamethasone-suppression test. Adrenal androgen secretion was assessed by measuring urinary 17-ketosteroid excretion or by measuring plasma dihydroepiandrosterone sulfate (DHEA-S). In selected patients, the hypothalamic-pituitary-adrenal axis was studied using low- and high-dose dexamethasone suppression tests, the metyrapone test, and the cosyntropin stimulation test. Plasma corticotropin (ACTH) was also measured, and adrenal medullary function was studied by measuring urinary free catecholamines, vanillylmandelic acid (VMA), or metanephrines.

Based on our interpretation of published reports, we recommended removal of adrenal masses greater than 3 cm in size. For patients with lesions less than 3 cm in diameter, we repeated the CT scan of the adrenal gland three to six months after the lesion was discovered.

Results

We found 10 female patients and 13 male patients with incidentally discovered adrenal masses. They ranged in age from newborn to 82 years old (mean, 56 years). Masses were discovered by CT scanning in 11 patients and by IVP in nine. Additional lesions were detected on a plain abdominal roentgenogram, an aortic arteriogram, and a prenatal ultrasonogram. The masses were confirmed by CT scans in 10 patients.

The masses were surgically removed in 12 patients. The pathologic diagnoses included seven benign adenomas, an adrenal cyst, an angiomyolipoma, and three malignancies. One of these patients had a widely metastatic angiosarcoma and died 20 months after surgery. Another patient with a 12 cm adrenal adenocarcinoma and a newborn infant with a 4 x 4 cm congenital neuroblastoma

Table 1

Review of incidentally discovered adrenal gland masses reported in the literature

Reference	Patients (number)	Adrenal carcinoma (number)	Other malignancies (number)	Threshold size for operative removal (cm)
1. Athani and Mullholland (1981)	18	7	2	Remove all
2. Geelhoed et al. (1982)	20	0	3	Remove none
3. Prinz et al. (1982)	9	0	0	3
4. Glazer et al. (1982)	16	0	0	3-4
5. Mitnick et al. (1983)	18	0	0	5
6. Guerrero (1983)	13	0	1	5
7. Abecassis et al.	19	0	0	5
8. Seddon et al. (1985)	8	2	0	Remove all
9. Belldegrun et al. (1986)	61	5	30	3.5
10. Bitter and Ross (1989)	10	0	1	4
11. Chang et al. (1989)	12	2	3	3.5
12. Hubbard et al. (1989)	28	3	1	3
— Present series (1991)	23	1	2	3

have survived nine and eight and one-half years, respectively, without recurrent disease.

The extent of endocrine evaluation varied. Four of 20 patients with serum potassium measurements were hypokalemic. This abnormality was attributed to diuretic therapy. Fifteen patients had normal adrenal steroid measurements. Excretion of urinary cortisol and 17-ketosteroid was excessive in the patient with adrenal cancer. Another patient with chronic diarrhea had a mild increase in the basal plasma cortisol level and displayed an abnormal overnight dexamethasone suppression test. Two patients developed adrenal insufficiency after removal of benign adrenal adenomas. These two patients displayed no clinical stigmata of Cushing's syndrome and had normal levels of plasma and urinary cortisol. One of these patients had partial suppressibility with dexamethasone, a low-normal level of ACTH, and a subnormal amount of 17-ketosteroid excretion.

Adrenal medullary function tests were normal in 19 patients. An abdominal aortogram revealed a 2.5 x 3 cm vascular mass in one of these patients, a 69-year-old man with diabetes mellitus and peripheral vascular disease. He was not hypertensive and never experienced symptoms of a pheochromocytoma. After completing abdominal aortic surgery, his surgeon palpated the adrenal mass. The patient developed severe hypertension and required a nitroprusside infusion for 48 hours. After recovering from pneumonia and heart failure, the patient displayed normal urinary catecholamine levels and did not develop symptoms of a pheochromocytoma during six years of observation. The adrenal mass had not increased in size when rescanned 12 months after the initial CT scan.

Discussion

Adrenal masses are important because they may be malignant or may secrete hormones. Hormone secretion has been detected infrequently in the 283 patients with incidentally discovered lesions reported in the literature.[1-13] Prinz et al.[3] and Bitter and Ross[10] each describe a case of pheochromocytoma. Only one case of Cushing's syndrome[7] has been reported, and no cases of aldosteronism.

Recent studies suggest that subclinical cortisol secretion by incidentally discovered adrenal masses may occur more frequently than previously thought. Endocrine studies described in five case reports suggest autonomous cortisol secretion.[17-20] Patients without Cushing's syndrome have been reported to display scintigraphic findings of cortisol-secreting adrenal adenomas.[15-17] Gross et al. performed ^{131}I-6 ß-iodomethyl-19-norcholesterol (NP-59) scintigraphy on seven patients with unilateral and one patient with bilateral adrenal masses discovered incidentally by computed tomography.[21] The NP-59 lateralized to the side of the lesion in the seven patients with unilateral masses, and asymmetrical uptake was noted in the patient with bilateral masses. The authors performed bilateral adrenal vein catheterization and found that the greatest cortisol concentrations were from the lesion side in patients with unilateral masses. The greatest concentration in the patient with bilateral adrenal lesions was from the larger of the two adrenal glands. In a subsequent article, these authors performed NP-59 scintigraphy on 119 consecutive euadrenal patients with incidentally discovered adrenal masses.[22] In 76 patients, NP-59 uptake lateralized to the abnormal adrenal mass seen on CT scans. The authors diagnosed benign adrenal adenoma in these patients using needle biopsy, adrenalectomy, or repeated CT scanning.

Laudat et al. evaluated an evening urinary-free cortisol excretion as a screening test for Cushing's syndrome.[23] The authors reported abnormal results in eight of 10 patients with incidentally discovered adrenal adenomas. Virkkala et al. determined the endocrine activity of 20 consecutive incidentally discovered adrenal masses.[24] Biochemical findings compatible with cortisol secretion were detected in four patients. Another patient had an abnormal dexamethasone suppression test 20 months after displaying normal results.

In our series, three patients secreted hormones from incidentally discovered adrenal tumors. Two of these patients, both women, developed adrenal insufficiency after benign masses were removed. We believe that the adenomas in these two patients secreted enough cortisol to suppress their contralateral adrenal glands but not enough cortisol to elevate their basal steroid levels.[14]

The 69-year-old man with diabetes mellitus may have an asymptomatic pheochromocytoma, as suggested by the hypertensive crisis precipitated by palpation during surgery. His poor general health precluded removal of the tumor.

In a 50-year autopsy study, Mayo Clinic physicians described 41 patients with clinically unsuspected pheochromocytoma. Only 54% had a recorded history of hypertension.[25] Krane noted that 34% of pheochromocytomas diagnosed at the Henry Ford Hospital were clinically unsuspected.[26] Thus, the absence of hypertension and other signs and symptoms does not exclude pheochromocytoma. We caution that even in the absence of elevated catecholamine levels, anesthesiologists and other physicians must be prepared to manage a hypertensive crisis during anesthesia, surgery, and other stressful circumstances.

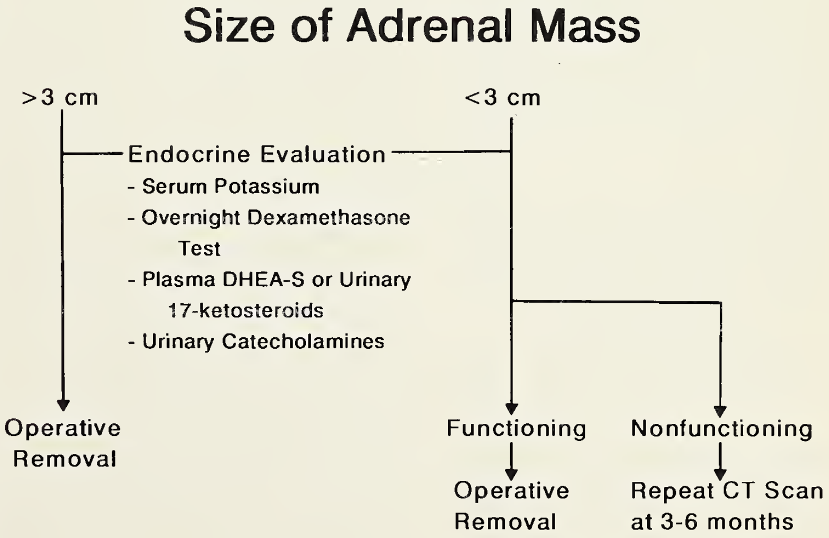
Unselected autopsy studies reveal a 1.4% to 8.7% incidence of adrenocortical tumors.[10] The incidence of adrenal masses detected incidentally on CT scans of the abdomen is 0.6% to 1.4%.[4,7,10] Adrenocortical carcinomas occur at a rate of 0.6 to 1.4 per million people each year. Although rare, adrenal cancer is highly malignant, and survival after resection relates inversely to tumor size.[13] Thus, it is extremely important to distinguish between malignant and benign masses. Elevations of adrenal androgens suggest adrenal cancer. Because a substantial number of adrenal malignancies are nonfunctional, however, endocrine tests are not reliable for determining malignancy.[12] Radiologic criteria and needle biopsy are also unreliable.[12] Magnetic resonance imaging (MRI) results in a 21% to 31% overlap between benign and malignant adrenal masses.[27] Adrenal scintigraphy[23] and fast-gradient MRI[28] may improve the differentiation, but these techniques are not generally available.

Currently, the size of the mass is the most useful indication of malignancy. Adrenal cancers are usually larger than 5 cm,[10,12] and benign tumors are usually smaller than 3 cm. Although some authors recommend operative removal of all adrenal masses,[1,8] most investigators suggest removing only large masses.[2-7,9-13] As seen in the table, there is no consensus on the size that indicates removal. In these series, adrenal cancer patients presented with symptoms, had far-advanced disease, and were rarely cured. If the results of adrenal cancer treatment are to improve, the masses must be removed early. For this reason, we remove masses larger than 3 cm. Carpenter[29] and Hubbard[12] have also recommended this approach.

In our series of 23 incidentally discovered masses, three malignancies were detected, including an angiosarcoma, an adrenal adenocarcinoma, and a congenital neuroblastoma. The patient with adrenal adenocarcinoma has survived nine years without recurrent disease despite the large size (12 cm) of the tumor.

The extent of endocrine evaluation in patients with incidentally discovered adrenal masses is controversial. Ross and Aron[30] recommend a selective approach that includes measuring 24-hour urinary excretion of VMA, metanephrines, or catecholamines and making serum potassium determinations for hypertensive patients. They measure adrenal androgens only in patients with progressive hirsutism and omit screening for glucocorticoid secretion. McLeod et al. recommend a more thorough evaluation of cortisol secretion.[31] In their series of 122 patients with asymptomatic adrenal masses, they identified six patients with what they call subclinical Cushing's syndrome. They also describe a seventh patient who suddenly died 24 hours after an incidental unilateral adrenalectomy. They attributed the death to possible Addisonian crisis due to unrecognized subclinical Cushing's syndrome. These authors believe abnormal NP-59 scintigraphy and loss of diurnal cortisol secretion may be the earliest abnormalities present in preclinical Cushing's syndrome. They did not have sufficient data on the overnight dexamethasone suppression test to allow comment.

Our laboratory approach (Figure) includes androgen screening for adult men because excess secretion would not be clinically apparent in these patients. Until prospective studies clarify the prevalence and natural history of subclinical cortisol secre-



Figure—Strategy for the management of incidentally discovered masses. DHEA-S = dehydroepiandrosterone sulfate; CT = computed tomography; IVP = intravenous pyelogram. Serum potassium is measured only in hypertensive patients. Adrenal androgens are measured in hirsute female and male patients.

tion, we believe the overnight dexamethasone suppression test should be included in the diagnostic protocol. This study is easily performed, is inexpensive, and has few false-negative results in patients with Cushing's syndrome.[32] Although the test has not been studied systematically in incidentally discovered adrenal masses, and false-positive results do occur, the dexamethasone suppression test offers a practical way to detect autonomous cortisol secretion and possibly prevent unanticipated adrenal insufficiency during stress.

Conclusion

In summary, patients with incidentally discovered adrenal masses should undergo the basic endocrine evaluation outlined in the figure. Normal test results do not exclude subtle hormone secretion, and clinicians must remain alert to possible hormone-related problems. Lesions larger than 3 cm in diameter should be removed, and smaller lesions should be evaluated with serial CT scans for at least one year. Additionally, patients should be periodically evaluated for the development of hormone secretion.

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Professional Peer Review

Precautions for Physicians

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Peer review can expose physicians to substantial legal risks if not conducted according to carefully structured procedures designed to comply with the law.

The well-known *Patrick*[1] case is an example that should be kept in mind. Over the course of seven years, Dr. Patrick's antitrust lawsuit challenging a review conducted by his former partners progressed from federal trial court through federal appellate court to the U.S. Supreme Court, which upheld a $2.2 million judgment in his favor. The real cost of poorly conducted peer review can only be partially measured in dollars; in addition to the obligation to pay a sizable amount in damages, the defendant peer reviewers in this case incurred other tangible losses to their professional practices and personal lives.

A more recent federal case indicates that physicians can reduce the liability risk inherent in peer review by establishing and cautiously following fair procedures. While *Austin v. McNamara*[2] is only a trial-level decision that has been appealed, it offers hope that physicians may continue to conduct peer evaluation without undue risk.

Five years after retiring from a lengthy tenure as chief of neurosurgery at a California medical school and setting up a private practice in Santa Barbara, Dr. Austin received notice that the medical staff planned to investigate concerns that nurses, fellow surgeons, and technicians had raised regarding his care of patients. After initial review, the surgical audit committee determined that Dr. Austin's cases should continue to be monitored by the medical staff and reviewed by neurosurgical consultants from outside the immediate community. Although the consultants rendered a generally favorable opinion, they expressed certain concerns and recommended further monitoring. An ad hoc committee appointed by the medical executive committee to review the data recommended a six-month monitoring period. Three months into the monitoring, the medical executive committee summarily suspended Dr. Austin based on a review of the previous month's cases. Upon further consideration and discussion with Dr. Austin, the medical executive committee recommended that the hospital board revoke Dr. Austin's clinical privileges and medical staff membership.

> "The safest approach is to prepare for peer review action before it actually occurs."

Dr. Austin requested and received a medical staff hearing presided over by a retired California appellate court judge. Both sides were represented by legal counsel at the hearing, which included 70 hours of testimony over two months and generated 12 volumes of transcripts, exhibits, and written arguments. Four months after the hearing began, the hearing panel found that the medical executive committee's recommendation to revoke privileges was unreasonable and recommended that Dr. Austin's privileges be reinstated, subject to continued monitoring. The hospital board upheld the panel's recommendation.

Dr. Austin then sued the chief of staff, the chief of surgery, three fellow neurosurgeons involved in the review, and the hospital, claiming violations of federal antitrust law and state laws prohibiting interference with business. Less than two years after the hospital's action, Dr. Austin's legal challenge was thrown out by a federal court on a motion for summary judgment. The court found that, although the peer review recommendations may have been faulty, as indicated by the judicial review committee's rejection of them, the process was fair, conducted in good faith for patient care reasons and, thus, was entitled to protection under federal law. This initial decision supports the validity of peer review, but to reduce their liability risk, physicians involved in peer review should be familiar with the federal peer review safeguards.

The May 1991 U.S. Supreme Court decision in *Summit Health Ltd. v. Pinhas*[3] emphasized the importance of these safeguards. Dr. Pinhas, a Los Angeles ophthalmologist, sued the hospital, the medical staff, the hospital attorney, the hearing officer, and other physicians after a peer review action was taken against him. Dr. Pinhas alleged that the action was taken to keep him from practicing because he refused to enter into a "sham" contract with the hospital. He contended the contract would have compensated him for his costs in complying with the medical staff policy requiring an assistant surgeon for all cataract operations, after Medicare ruled that cataract surgery assistants could not be reimbursed.

The hospital argued that the federal antitrust laws were inapplicable because the termination of a single ophthalmologist's privileges did not have a sufficient effect on interstate commerce. The Supreme Court disagreed, finding that peer review is a federal issue, as demonstrated by Congressional enactment of laws governing it.

How to Protect Peer Review

The federal law designed to protect peer review in the aftermath of the *Patrick* case is known as the Health Care Quality Improvement Act (HCQIA).[4] This statute is intended to encourage peer review by establishing immunity from antitrust liability, such as that alleged in the *Patrick* and *Austin* cases and certain other federal and state cases. The protection is available to professional review bodies, their members or staff, individuals under contract or other agreement with professional review bodies, and individuals who participate with or assist them. However, certain conditions apply.

Good faith review

As the *Patrick* case demonstrated, peer review can be manipulated by individuals attempting to eliminate competition or take malicious action against a colleague, for example. Legal protections will only apply to peer review conducted in good faith. Consequently, federal law requires that peer review actions be taken in the *reasonable* belief that they will promote quality health care following a *reasonable* effort to obtain the underlying facts and only if it is *reasonably* believed that the action is warranted. Under the HCQIA's terms, a professional review action is presumed to have met these tests for reasonableness unless the physician challenging the review can prove it more likely than not that the professional review body's actions were unreasonable.

In measuring the reasonableness of professional review action, the *Austin* court determined that the hospital medical executive committee reasonably believed that its action promoted quality health care. The court noted that the hospital was responding to numerous concerns that had been raised not only by staff complaints, but also by evaluations, including those by outside consultants, and by ongoing monitoring. The court further relied on the fact that the hearing panel's decision, while overturning the summary suspension, still required some restrictions on Dr. Austin's privileges.

The *Austin* court found that the review by outside consultants, the 10 months of internal review conducted by the medical staff, and the medical staff hearing constituted a reasonable effort to obtain the facts. The defendants, therefore, met the second reasonableness test. Finally, the defendants reasonably believed that the action was warranted based on the facts gathered.

Austin also raises a concern related to future peer review challenges: It may come to set the standard for reasonableness, even though the HCQIA does not directly mandate use of outside consultants, voluminous testimony over a period of months, or other extensive procedural requirements.

> "The real cost of poorly conducted peer review can only be partially measured in dollars."

Standards of fair procedure

In addition to the substantive reasonableness (or good faith) requirements, the HCQIA also requires that professional review actions be taken only after adequate notice and hearing procedures have been afforded the physician under review. Again, Congress was influenced by the *Patrick* case, in which Dr. Patrick was judged not by an impartial panel but by his accusers and competitors.

The HCQIA's fairness indicators are not mandatory, but rather are constructed as a "safe harbor." If the professional review action meets the standards set forth in the statute, the action is automatically protected from antitrust and most other claims; i.e., it falls within a safe harbor. Failure to meet the standards does not mean the professional review action will subject the physician reviewers to liability; however, they must then prove that the action was fair. The importance of meeting the safe harbor standards is shown by the *Austin* case, in which the physicians and hospital won a summary judgment motion, saving time and money by achieving a relatively speedy judgment and avoiding a full trial. Conversely, the Supreme Court in *Pinhas* noted that Dr. Pinhas alleged that the hospital had not met the HCQIA requirements, and the case will proceed to trial in federal court unless a settlement is reached.

The HCQIA procedural safe harbor requirements are as follows:

1. The physician must receive the following:
    - Notice that a professional review action has been proposed and the reasons for the proposed action;
    - Notice that the physician has the right to request a hearing and specification of a time limit of not less than 30 days within which to request a hearing; and
    - A summary of hearing rights.
2. If a hearing is requested within the time limits above, the physician must receive a second notice stating:
    - The hearing place, time, and date, which shall not be less than 30 days after the date of the notice; and
    - A list of witnesses, if any, expected to testify at the hearing on behalf of the professional review body.
3. At a minimum, the hearing must follow these procedures:
    - The hearing shall be held, as determined by the hospital or health care entity, before a mutually acceptable arbitrator or before a hearing officer, appointed by the hospital or health care entity, who is not in direct economic competition with the physician, or before a panel, appointed by the hospital or health care entity, of individuals who are not in direct economic competition with the physician;
    - The right to a hearing may be forfeited if the physician fails to appear without good cause;
    - During the hearing, the physician has the right to be represented by a lawyer or other person of the physician's choice; to have a record made of the proceedings; to obtain

copies of the record upon payment of reasonable charges associated with its preparation; to call, examine, and cross-examine witnesses; to present evidence determined to be relevant by the hearing officer, even if it is inadmissible in a court; and to submit a written statement at the close of the hearing; and

- Upon completion of the hearing, the physician has the right to receive the written recommendation, including a statement of the basis for the recommendation, and to receive in writing the hospital or health care entity's decision, including a statement of the basis for the decision.

Reporting requirement

Finally, to qualify for immunity, the HCQIA requires that hospitals and specified health care entities report to the National Practitioner Data Bank any disciplinary action taken against physician's privileges or membership. Health care entities that fail to report adverse actions affecting clinical privileges for 30 days or more stand to lose the immunity protection for three years.

Statutory requirements

Well-drafted peer review procedures specific to the medical staff or medical group will improve the likelihood of meeting the legal requirements for peer review immunity. The safest approach is to prepare for peer review action before it actually occurs. Medical staff bylaws or fair hearing plans should be reviewed to determine whether they meet the standards to win immunity for reviewers and to assure physicians that fairness is intended and will be provided.

In addition to establishing fair procedures, medical staff and medical group leadership must promote the uniform application of procedures and prevent allegations of discrimination when conducting peer review. Following well-drafted procedures to the letter protects the entity, the reviewer, and the physician under review.

Unprotected Actions

The HCQIA excludes the following actions from any protection under the statute.

Allied health practitioner credentialing

The HCQIA specifically states that its provisions do not apply to professional review bodies' activities regarding nurses, other licensed health care practitioners, or any health professionals other than physicians and dentists. Congress refused to extend immunity to physician review of allied health practitioners, reasoning that physicians may take advantage of the immunity and more stringently review and deny or revoke privileges or practice opportunities for their allied health competitors. Consequently, physician review of any other licensed health care practitioners (other than dentists) is not protected by the HCQIA immunity.

The following categories of actions are, by statutory definition, considered not to be based on professional competence or conduct and, therefore, are not protected "professional review actions" under the HCQIA.

Allied health practitioner supervision

Also apparently to reduce the possibility that physicians would use peer review immunity to limit allied health professionals' practices, the HCQIA specifically does not extend protection to actions based on a physician's association with, supervision of, delegation of authority to, support for, training of, or participation in a private group practice with members of a particular class of health care practitioners or professionals. For example, if a physician sued a hospital and the chief of his or her department, alleging that a peer review action brought for failure to adequately supervise a physician assistant was a violation of the antitrust laws, the HCQIA immunity would not be available to protect the hospital or department chief.

Professional membership and delivery system participation

Under the HCQIA, a disciplinary action based on whether the physician is a participant in a prepaid group health plan, a salaried employee, or otherwise participates in a health care delivery system is not protected by the statutory immunity. Similarly, an adverse peer review action taken because of a physician's association or lack of association with a professional society would not qualify for immunity.

Fees and patient solicitation

Professional review actions based on a physician's fees, advertising, or other activities designed to solicit or keep patients will disqualify the action from protection under the HCQIA.

Actions unrelated to professional conduct or competence

The HCQIA specifically applies immunity only to peer review actions based on a physician's conduct or professional competence. Consequently, review action taken to break a physician's contract, action based on a physician's failure to comply with hospital policy, or action taken because a physician's practice patterns are not consistent with a marketing plan or economic profile will not be covered by the HCQIA immunity. A peer review panel that bases its decision on such grounds could be exposed to antitrust liability, even if it meets all the other HCQIA requirements for notice, hearing, and good faith.

Conclusion

To promote fairness and to meet the technical requirements for immunity, physicians would be well-advised to see that their medical staff, medical group, independent practice association, and other professional peer review groups have properly drafted bylaws and fair hearing plans.

Procedures that were drafted even as recently as 1990 may be out of sync with developments such as the opening of the National Practitioner Data Bank in September 1990. Consequently, legal counsel should review procedures and protocols to ensure that the most recent developments in this constantly changing area of law have been appropriately addressed.

Faulty peer review is costly. Physicians need to remain aware of developments in this highly contentious area of professional liability in order to protect themselves, their organizations and, most important, their patients, from peer review abuses. MM

This article highlights certain legal issues. Persons who have questions about the application of particular state or federal laws are urged to review them with knowledgeable legal counsel.

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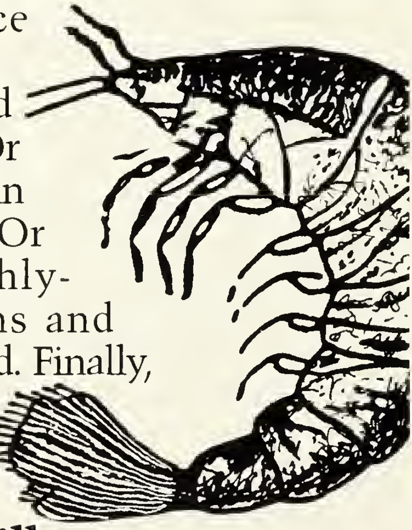

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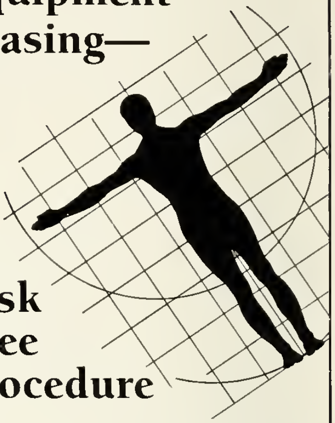

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A Management Perspective on Medical Group Mergers

David C. Cordes, Ph.D.

Choosing to merge with another medical group is a major strategic business decision, much like choosing to buy into a professional association, as I discussed in the November 1990 issue of *Minnesota Medicine* (page 41). This article discusses the process followed and some of the issues that emerge when two independent, small, same-specialty medical groups decide to merge.

Why Merge?

Small, independent medical groups merge for several reasons, the most common of which are described below.

Need for management: The increasing complexity of health care administration, and Medicare regulations in particular, has made competent management a necessity. Trying to manage a small business with a medical secretary or an untrained spouse is nearly impossible. The need to consult with accountants, lawyers, bankers, insurance brokers, pension plan administrators, and others dramatically increases the complexity. Although physicians could probably handle these management functions, they see fewer patients when they are managing, and their practices suffer.

Physician stress: The stress of on-call duty coupled with management functions can be enormous in small practices.

Equipment purchase: Capital expenditures that are not feasible in small, independent groups may be possible in larger groups.

Space efficiency: Frequently, small groups settle for less than desirable space because they can't afford better space or can't justify the expense. Often, they must share space with other specialists, or they need multiple offices that are used only once or twice a week. With a merger, office consolidation is possible, leading to higher utilization and reduced cost per physician.

> "Mergers can be frustrating, stressful, costly, time-consuming, and confusing."

Staff efficiency and availability: Small groups with several offices need staff at all their offices. The resulting scheduling, rotation, and staff travel can reduce efficiency. A merged group is more likely to have full-time staff doing full-time jobs at one location.

Computer use: Although computers are available for small practices, they generally become more cost-efficient in larger groups. Staff training on the system can be more problematic for very small groups, which often train just one or two staff members on the system. In a merged group, more people can be trained to use the computer, and the practice need not depend on only one or two individuals. Additionally, because the system's costs are shared by more doctors, the practice can afford more software (e.g., appointment and surgery scheduling programs).

Benefit issues: A larger group often can afford better fringe benefits. For example, a small group may not be able to handle the administrative complexities of a flexible benefits plan (cafeteria plan), or they may not be able to afford health insurance. The cost of administering a profit-sharing plan may be prohibitive, or at least more costly per employee in a small group.

Referral protection: As one author notes, the main reason for merging is strength in numbers.[1] Another author concludes, after extensive study, that larger practices are better positioned to meet competitive market forces than smaller practices.[2]

Service diversification: Solo practitioners cannot effectively provide a full range of services, even in their specialties. In order to keep patients, practices must offer a wide range of easily accessible services, which merged practices are often better able to do.[1]

Why Not Merge?

Although these economic and managerial issues often favor small-group mergers, several factors, discussed below, can be equally persuasive against merging.

Chemistry—the doctors: The ability of physicians to get along with one another is the most important factor in merging two small, independent medical groups. A merger is like a marriage.[1] In fact, physicians in a group practice often spend more time with each other than they do with their spouses. In single-specialty mergers, the physicians have often been in direct competition, which can lead to hard feelings and mutual distrust during the merger. As McGraw notes, "Until mutual trust develops, there is the anxiety that comes from newly shared decision making, new lines of authority, and new roles to work within. The group may decide to do things differently from the way you have done them before. Your schedule may shift, your coverage may change, and you may no longer have full responsibility for the practice. It is difficult to give up old patterns and systems."[3]

Chemistry—the staff: In a recent *Medical Economics* article entitled "Don't Let Employee Friction Scuttle a Practice Merger," the author concludes, "Successfully melding two staffs into one may be the single most important factor in your merger's success."[4] The friction comes from what Marks refers to as the "clash of cultures." He says, "When two companies merge, each side feels its way of doing business is the best. Such 'we' versus 'they' orientations detract from the teamwork necessary for smooth post-merger integration. Moreover, much of the resistance to merger or reorganization comes from employee fears that their company's or work group's culture and history will be lost as integration progresses."[5]

Medical community reaction: Referring physicians may be concerned about one of the new partners, or they may be unsure whether they can refer patients directly to individual physicians in the new group. Colleagues may also become more competitive, both personally and professionally, because of the larger size or subspecialty diversification of the new group.

Legal implications: Legal considerations involving Medicare and Medical Assistance, tax and pension laws, and personnel and antitrust issues can all be potential reasons not to merge.

The Merger

Several authors have presented detailed checklists and "how to" articles on the merger process.[1,6-8] I have identified three distinct phases of the merger process: 1) analysis of merger potential, 2) pre-implementation planning, and 3) implementation management.

Phase 1—analyses

The first question to be answered during this phase is "Do both groups want to merge?" How much analysis is required and how long it will take depend on the circumstances of the potential merger. If the physicians know each other well, which is often true in single-specialty mergers, this phase may be relatively short. If the groups have shared call, their medical quality issues may not be a concern, and the non-medical issues will likely dominate the discussion.

A typical approach is for the consultant to interview the individual physicians involved in the potential merger to ascertain their expectations and reservations about the merger. Practice managers from both groups are also interviewed. Finally, the organization of each practice is reviewed, including the physician compensation formula and benefits; buy-in procedures; legal agreements; balance sheets and income statements; accounts receivable policies and procedures; staff job descriptions, salaries, and benefits; personnel policies and procedures; call schedules; third-party payers; and office leases.

"Physicians in a group practice often spend more time with each other than they do with their spouses."

The consultant makes a list of priorities to be discussed at the first group meeting. Both groups must agree on a set of assumptions for each item before moving on to Phase 2. If a relatively complete set of assumptions *cannot* be agreed upon, merger talks should be stopped.

Phase 2—pre-implementation

By the end of Phase 1, the groups are pretty sure they want to merge and have agreed on a list of assumptions for the merged entity. These assumptions become the input to Phase 2. Actions taken during this phase are more concrete and include the following:

- Hiring a manager;
- Designing space;
- Determining the exact financial contribution by each party;
- Selecting an advisory team—attorney, accountant, benefit adviser, management consultant, banker, pension plan administrator, etc.;
- Finalizing the benefit structure;
- Preparing all necessary legal documents, including physician employment agreements, deferred compensation, stock purchase, and merger plan;
- Establishing a promotion plan;
- Deciding operational details, including staffing, scheduling, records management, call schedule, computer systems, third-party payers, and personnel policies and procedures;
- Establishing a structure;
- Defining the roles of individual physicians; and
- Establishing bail-out provisions.

Phase 3—implementation

Even with a thorough implementation plan, "merger syndrome" is likely to occur during the implementation phase. Merger syndrome is the management's response to the uncertainty and stress inherent in a merger.[9] It's perfectly normal and to be expected. Several factors make management of a merged group stressful: first, there is more work and usually less time; second, there is a great deal of uncertainty; and third, there is insecurity about possible job loss, new bosses, new procedures, and other changes.

As Marks notes, the first three things to improve management during a merger are "communicate, communicate, and communicate."[5] He also recommends education, participation, and "grieving meetings," which allow staff (including physicians) to mourn the loss of running their own organizations. Key to the implementation process is personnel management, which means the selection of an appropriate administrator in the pre-implementation phase is important for successful implementation.

Analyzing a Potential Merger

The crucial Phase 1 of the merger process raises many interesting issues requiring consensus by both parties, and several factors can make reaching consensus more difficult, including the following:

Lack of group decision-making experience: Small medical groups often have serious problems with their own governance and decision-making structures. For example, one senior doctor might dominate his colleagues, even though all are legally equal. Or perhaps the group has no formal decision-making structure, and individual doctors purchase items or promise raises to other staff members without consulting their partners.

Lack of business training: Many doctors do not have a good grasp of their current business practices. Merging two groups means merging the financial assets as well and requires a discussion of balance sheets, accounts receivables, and other accounting considerations. A physician who does not understand these business practices may subconsciously resist the merger.

Confusion about the term 'merger': Another possible source of confusion is the word "merger." Many people use the term loosely to describe distinctly different legal arrangements, such as acquisition or consolidation. Acquisition is when one practice buys out another practice and subsumes it. Consolidation is when two groups join to form a wholly new corporation. A merger is when two groups combine. The differences, although technical, lead to a variety of outcomes and decisions involving such issues as tax IDs, third-party payer contracts, bank accounts, fee schedules, profit-sharing plans, telephone numbers, leases, and practice name.

Disagreement over the compensation formula: Detailed discussion must be held concerning the formula by which physicians will be compensated. If an acceptable formula cannot be worked out, there is no need to proceed.

Questions about the financial impact: Although there are several reasons to merge, as noted, economics is usually the primary one. Will the physicians make more money in the merged corporation? As a general rule, most small groups benefit from the resultant economies of scale: one accountant, one attorney, one benefit plan, one retirement plan, shared marketing costs, shared capital, and shared space.

A detailed projection for the merged entity indicating estimated income for the doctors is an absolute prerequisite to a final merger decision. Obviously, a compensation formula to distribute revenue is also necessary.

Difficulty selecting an administrator: A potential road block exists if either or both groups have managers. As mentioned above, managers have a predictable response to a merger. In their concern for protecting their "turf," they often highlight the differences between the groups rather than emphasize the similarities. Individual physicians who have functioned as managers in small offices may exhibit the same resistance.

> "Small medical groups often have serious problems with their own decision-making structures."

For a number of reasons, it is not a good idea to choose one of the current managers.[3] First, in small groups, often no one is qualified—by experience, education, or temperament—to manage the larger combined group. Second, if a manager is chosen from one of the groups, the other manager must either leave or become subordinate to the new manager. Neither situation is good for the new practice.

If the merged entity has five or more physicians, a professional administrator is a good solution. Hiring this administrator before the merger implementation—sometime during Phase 2—will reduce outside consulting costs and will give the new administrator a chance to anticipate the issues to be addressed during implementation.

Problems negotiating space: Space can also be difficult to negotiate. For example, one group of physicians may be strongly attached to the layout, location, or interior of its current space and may be unwilling to move. Or one group may prefer individual offices and the other want an open area without separate offices. Additionally, the number of practice locations and size of each room must be discussed in detail. Because potential space savings may be one reason for merging, the groups may need the assistance of a consultant to resolve these issues.

Frustration over the process length: General frustration over the length of the process may also be a problem. However, as Anders notes,[7] physicians should recognize that a merger does not happen overnight. He believes a year of discussion and hard work is needed and concludes that it is better to work out as many issues as possible beforehand than risk creating an unacceptable association that must later be dissolved.

Final Considerations

Several additional factors require consensus before the groups can be merged. First, each party's financial contribution must be determined. Three aspects must be considered: hard assets, accounts receivable, and goodwill. Five crucial questions need to be addressed when analyzing the hard assets: 1) What hard assets is each group contributing? 2) How will the assets be valued? 3) Are all of the assets needed by the combined entity? 4) Who decides on the value? 5) How should the difference in value between the groups be handled? (See McGraw[1] for a detailed analysis.)

The groups must also determine how they will value and collect accounts receivable. Goodwill, a subjective value assigned to the practice beyond the value of hard assets, is not typically considered in the financial aspects of a small group merger.

Addressing bail-out provisions is also a necessary ingredient in merger planning.[10] While a total commitment is required to make the merger work, dissolution is also possible.

Other important issues that need to be addressed before finalizing a merger include taxes,[11] personnel policies,[12-15] and information systems.[16] While these topics are too broad to be addressed in this article, they are important considerations in the merger process.

Finally, merged groups should be sure they comply with antitrust and Medicare fraud and abuse regulations. The Department of Justice has made it clear that physician group mergers will be subjected to the same scrutiny applied to mergers in industry.[17,18]

Conclusion

Mergers can be frustrating, stressful, costly, time-consuming, and confusing. However, the decision to merge two small groups may be one of the most important business decisions a physician can make. **MM**

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Payment Reform Takes a Turn for the Worse

Richard B. Tompkins, M.D.

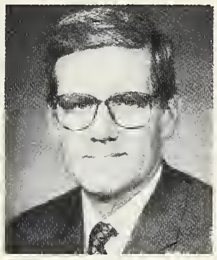
Physicians across the nation are outraged by the proposed Medicare payment system scheduled to begin January 1, 1992. We trusted assurances from Congress and the Physician Payment Review Commission (PPRC) that Medicare payment reform would be budget neutral, but instead, the proposed rules would reduce overall physician payments by 16 percent!

On June 5, the Health Care Financing Administration (HCFA) published its proposed regulations for the new system in a Notice of Proposed Rule Making. HCFA allowed a 60-day public comment period, and the MMA joined organizations across the country in urging physicians to write Congress and HCFA by August 5 objecting to the proposed cuts. The deadline has passed, but the momentum must continue until the final rules are published in October.

The proposed payment reforms are based on refined resource-based relative value scale data. They adjust payments for geographic differences in practice costs, use a phased-in transition to prevent steep single-year reductions, adopt the Medicare Volume Performance Standard, and maintain claim-by-claim assignment.

The staggering 16 percent reduction results from three factors included in the proposed rules for payment reform:

- First, HCFA applies a "behavioral offset," in which initial payment levels are reduced by 3 percent to offset anticipated volume increases. HCFA has made the unfounded assumption that for every $1 cut in Medicare fees, physicians will increase the volume of their services by enough to recapture 50 cents.
- Second, HCFA proposes a 2 percent payment reduction to adjust for the "asymmetry" of the 1992 transition process. During the transition, payments due to increase under the new system would begin before any payment reductions. The intent of this asymmetrical transition is to speed pay increases to primary care providers and to lessen the negative impact on physicians with reduced payments. HCFA's proposed 2 percent overall payment reduction is intended to offset this acceleration in Medicare expenditures.
- Third, these two adjustments would be applied only to the RBRVS conversion factor. However, until 1996 the proposed payments would be a blend of RBRVS and historical payments—two-thirds historical and one-third RBRVS in 1992. Applying the adjustments only to the conversion factor causes a "tripling effect"; a 1 percent adjustment to overall payments requires a 3 percent reduction in the conversion factor because it represents only one-third of the total Medicare payment. This causes many projected payment levels to be considerably lower than those in HCFA's 1990 "Model Fee Schedule," as well as those in previous impact simulations.



"The outrageous proposed payment reduction must unify physicians across the nation."

HCFA's proposals are clearly unjust. The promised budget-neutral Medicare reform would instead result in substantially decreased Medicare payments. Additionally, no data support HCFA's assumptions about the need for behavioral offset.

Not all the news is bad, however; HCFA's proposal allows for the creation of single payment districts in states where there is overwhelming physician support. Currently, Minnesota has three Medicare payment districts, and the PPRC has recommended five. The MMA, supported by every trustee and component medical society as well as the vast majority of physicians, is petitioning HCFA to create a single payment district for Minnesota. The MMA feels strongly that having just one payment area would promote rural access to health care by improving physician recruitment and retention. However, it won't happen without the support of Minnesota physicians. Sen. David Durenberger has said he will support the initiative if he receives enough evidence that Minnesota physicians favor it. I urge you to write Congress and HCFA to show your support.

Yet, even if we achieve a single payment district, all will be lost if we are unable to change the proposed Medicare payment system. The AMA has led a powerful grassroots effort to modify HCFA's proposal. The outrageous 16 percent proposed payment reduction, which would affect physicians across geographical and specialty lines, must unify physicians across the nation. MM

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Indications and Usage: 1. *Active duodenal ulcer*—for up to 8 weeks of treatment Most patients heal within 4 weeks

2 *Maintenance therapy*—for healed duodenal ulcer patients at a reduced dosage of 150 mg h.s The consequences of therapy with Axid for longer than 1 year are not known

Contraindications: Known hypersensitivity to the drug Because cross sensitivity in this class of compounds has been observed, H_2-receptor antagonists, including Axid, should not be administered to patients with a history of hypersensitivity to other H_2-receptor antagonists.

Precautions: *General*—1 Symptomatic response to nizatidine therapy does not preclude the presence of gastric malignancy

2 Dosage should be reduced in patients with moderate to severe renal insufficiency

3 In patients with normal renal function and uncomplicated hepatic dysfunction, the disposition of nizatidine is similar to that in normal subjects

Laboratory Tests—False-positive tests for urobilinogen with Multistix* may occur during therapy

Drug Interactions—No interactions have been observed with theophylline, chlordiazepoxide, lorazepam, lidocaine, phenytoin, and warfarin. Axid does not inhibit the cytochrome P-450 enzyme system, therefore, drug interactions mediated by inhibition of hepatic metabolism are not expected to occur In patients given very high doses (3,900 mg) of aspirin daily, increased serum salicylate levels were seen when nizatidine, 150 mg b.i.d., was administered concurrently

Carcinogenesis, Mutagenesis, Impairment of Fertility—A 2-year oral carcinogenicity study in rats with doses as high as 500 mg/kg/day (about 80 times the recommended daily therapeutic dose) showed no evidence of a carcinogenic effect. There was a dose-related increase in the density of enterochromaffin-like (ECL) cells in the gastric oxyntic mucosa In a 2-year study in mice, there was no evidence of a carcinogenic effect in male mice, although hyperplastic nodules of the liver were increased in the high-dose males as compared with placebo Female mice given the high dose of Axid (2,000 mg/kg/day, about 330 times the human dose) showed marginally statistically significant increases in hepatic carcinoma and hepatic nodular hyperplasia with no numerical increase seen in any of the other dose groups The rate of hepatic carcinoma in the high-dose animals was within the historical control limits seen for the strain of mice used The female mice were given a dose larger than the maximum tolerated dose, as indicated by excessive (30%) weight decrement as compared with concurrent controls and evidence of mild liver injury (transaminase elevations) The occurrence of a marginal finding at high dose only in animals given an excessive and somewhat hepatotoxic dose, with no evidence of a carcinogenic effect in rats, male mice, and female mice (given up to 360 mg/kg/day, about 60 times the human dose), and a negative mutagenicity battery are not considered evidence of a carcinogenic potential for Axid

Axid was not mutagenic in a battery of tests performed to evaluate its potential genetic toxicity, including bacterial mutation tests, unscheduled DNA synthesis, sister chromatid exchange, mouse lymphoma assay, chromosome aberration tests, and a micronucleus test.

In a 2-generation, perinatal and postnatal fertility study in rats, doses of nizatidine up to 650 mg/kg/day produced no adverse effects on the reproductive performance of parental animals or their progeny

Pregnancy—*Teratogenic Effects*—*Pregnancy Category C*—Oral reproduction studies in rats at doses up to 300 times the human dose and in Dutch Belted rabbits at doses up to 55 times the human dose revealed no evidence of impaired fertility or teratogenic effect, but, at a dose equivalent to 300 times the human dose, treated rabbits had abortions, decreased number of live fetuses, and depressed fetal weights On intravenous administration to pregnant New Zealand White rabbits, nizatidine at 20 mg/kg produced cardiac enlargement, coarctation of the aortic arch, and cutaneous edema in 1 fetus, and at 50 mg/kg, it produced ventricular anomaly, distended abdomen, spina bifida, hydrocephaly, and enlarged heart in 1 fetus There are, however, no adequate and well-controlled studies in pregnant women It is also not known whether nizatidine can cause fetal harm when administered to a pregnant woman or can affect reproduction capacity Nizatidine should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus

Nursing Mothers—Studies in lactating women have shown that 0.1% of an oral dose is secreted in human milk in proportion to plasma concentrations. Because of growth depression in pups reared by treated lactating rats, a decision should be made whether to discontinue nursing or the drug, taking into account the importance of the drug to the mother

Pediatric Use—Safety and effectiveness in children have not been established

Use in Elderly Patients—Healing rates in elderly patients were similar to those in younger age groups as were the rates of adverse events and laboratory test abnormalities Age alone may not be an important factor in the disposition of nizatidine Elderly patients may have reduced renal function.

Adverse Reactions: Clinical trials of varying durations included almost 5,000 patients. Among the more common adverse events in domestic placebo-controlled trials of over 1,900 nizatidine patients and over 1,300 on placebo, sweating (1% vs 0 2%), urticaria (0 5% vs <0 01%), and somnolence (2 4% vs 1 3%) were significantly more common with nizatidine It was not possible to determine whether a variety of less common events were due to the drug

Hepatic—Hepatocellular injury (elevated liver enzyme tests or alkaline phosphatase) possibly or probably related to nizatidine occurred in some patients In some cases, there was marked elevation (>500 IU/L) in SGOT or SGPT and, in a single instance, SGPT was >2,000 IU/L The incidence of elevated liver enzymes overall and elevations of up to 3 times the upper limit of normal, however, did not significantly differ from that in placebo patients All abnormalities were reversible after discontinuation of Axid Since market introduction, hepatitis and jaundice have been reported. Rare cases of cholestatic or mixed hepatocellular and cholestatic injury with jaundice have been reported with reversal of the abnormalities after discontinuation of Axid

Cardiovascular—In clinical pharmacology studies, short episodes of asymptomatic ventricular tachycardia occurred in 2 individuals administered Axid and in 3 untreated subjects

CNS—Rare cases of reversible mental confusion have been reported

Endocrine—Clinical pharmacology studies and controlled clinical trials showed no evidence of antiandrogenic activity due to nizatidine Impotence and decreased libido were reported with equal frequency by patients on nizatidine and those on placebo Gynecomastia has been reported rarely

Hematologic—Fatal thrombocytopenia was reported in a patient treated with nizatidine and another H_2-receptor antagonist This patient had previously experienced thrombocytopenia while taking other drugs Rare cases of thrombocytopenic purpura have been reported

Integumental—Sweating and urticaria were reported significantly more frequently in nizatidine- than in placebo-treated patients. Rash and exfoliative dermatitis were also reported

Hypersensitivity—As with other H_2-receptor antagonists, rare cases of anaphylaxis following nizatidine administration have been reported Rare episodes of hypersensitivity reactions (*eg*, bronchospasm, laryngeal edema, rash, and eosinophilia) have been reported

Other—Hyperuricemia unassociated with gout or nephrolithiasis was reported Eosinophilia, fever, and nausea related to nizatidine have been reported

Overdosage: Overdoses of Axid have been reported rarely If overdosage occurs, activated charcoal, emesis, or lavage should be considered along with clinical monitoring and supportive therapy Renal dialysis does not substantially increase clearance of nizatidine due to its large volume of distribution

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References
1. Data on file, Lilly Research Laboratories
2. *Scand J Gastroenterol* 1987;22(suppl 136).61-70.
3. *Scand J Gastroenterol* 1987,22(suppl 136):47-55
4. *Am J Gastroenterol* 1989,84 769-774

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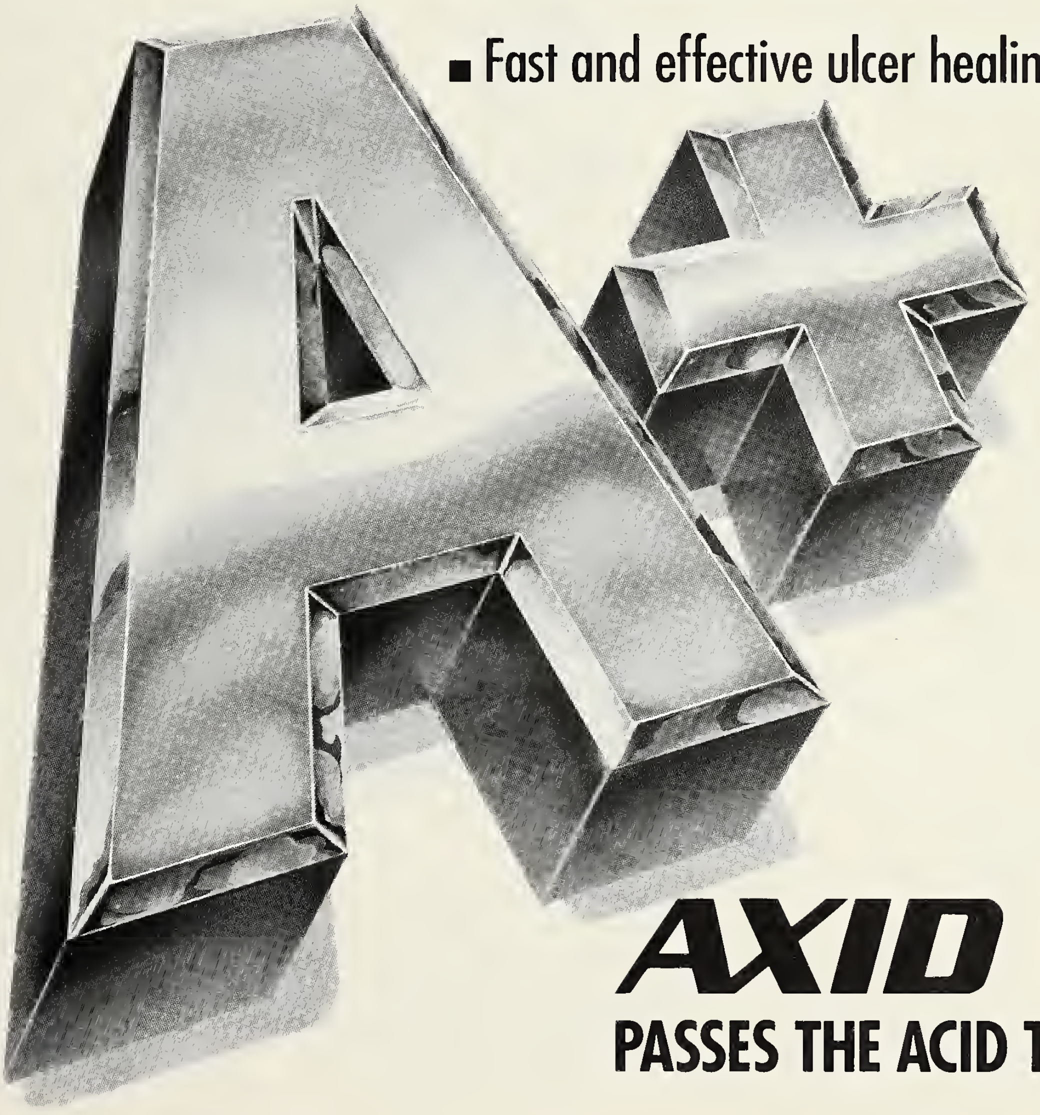

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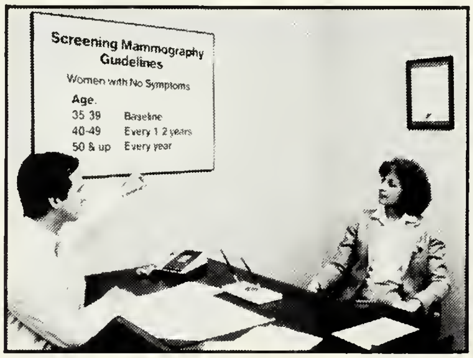

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People and Places Making Medical News

People

Helga Wanglie Dies

Helga Wanglie, the 87-year-old Minneapolis patient who became the focus of a national right-to-life debate, died July 4 at the Hennepin County Medical Center. Just three days earlier, the Hennepin County District Court had given Oliver Wanglie authority to keep his wife on life-support, even though hospital officials had argued against it. The hospital believed life-support was irresponsible medicine because Wanglie was in a persistent vegetative state with no chance of improvement.

Wanglie died of natural causes after multisystem organ failure. Despite the disagreement, Wanglie's family commended the hospital for its top-notch medical care.

AIDS Award to Former State Doc

Former Rochester, Minnesota, physician Paul Volberding was awarded the first annual LIFE Association prize June 18 at the international AIDS conference held in Florence, Italy, for his leadership in the field of clinical evaluation of AIDS treatments. Volberding is currently director of the AIDS program at San Francisco General Hospital and has done research showing the efficacy of low doses of AZT in treating AIDS patients.

The award jury included AIDS experts Luc Montagnier of France and Robert Gallo of the United States.

U of M AIDS Expert Gets Tenure

The University of Minnesota granted Frank Rhame, M.D., director of the University of Minnesota's HIV Clinic, tenure as an associate professor. The Board of Regents' June 15 vote, which reversed an earlier recommendation, became official July 1, said university spokesperson Mary Stanik.

Rhame is a nationally known AIDS expert and has worked for the university 12 years.

President of Medtronic Europe

Medtronic, Inc. announced July 2 that it named William W. Chorske president of Medtronic Europe, headquartered in Brussels, Belgium. He assumed his new duties July 1.

Chorske, who has been Medtronic's chief financial officer, will remain a corporate senior vice president and succeed Gerard C. Planchon, executive vice president of Global Business, who has headed European operations for the past year.

Places

HCMC Expansion

A deal to expand Hennepin County Medical Center by purchasing adjoining Metropolitan-Mount Sinai Medical Center won county board approval by a narrow 4-3 vote June 25. The vote of approval came after Health One, M-MSMC's owner, agreed to cut the selling price from $45 million to $39 million. The lower price and a limit on staffing will improve the chance that patient billings will cover costs, making it possible to avoid an increase in property taxes to fund the purchase.

The additional space will increase HCMC's size by about 80 percent. The hospital will initially increase its number of hospital beds by only 40 for a total 440 beds, and will increase its staff from 2,375 to 2,575.

Riverside Investigation

Riverside Medical Center adopted a new infection-control system in July after a Health Care Financing Administration investigation determined the hospital was not in compliance with federal infection control rules. The investigation involved AIDS-stricken physician Philip Benson, M.D., who had performed obstetric procedures with open sores on his hands.

HCFA sent the hospital's CEO, Richard Peterson, a letter July 2 saying, "We have determined that the deficiencies cited are significant and limit your hospital's capacity to render adequate care and to ensure the health and safety of your patients."

The agency based its conclusion on a survey that inspectors from the Minnesota Department of Health conducted at the hospital June 19-21. Details of the investigation will not be available until October.

Peterson said the hospital "did things right," and did not put any patients in jeopardy.

New John Deere/Mayo Clinic

Deere & Company, one of the world's largest farm implement manufacturers, is working with Mayo Clinic and the United Auto Workers Union to start a health care facility for its John Deere employees and retirees in the Quad Cities area of Illinois and Iowa. The John Deere Family Health Center, scheduled to open in 1992, will be a family practice facility providing primary care and other services, including basic laboratory and radiology services, and pharmacy, physical therapy, and wellness services. The clinic's salaried doctors are expected to eventually serve about 15,000 of the 35,000 Deere employees, dependents, and retirees.

Mayo Clinic is helping design the center and will later recruit physicians and administer the clinic. Robert Avant, M.D., a Mayo family physician, said the collaboration is the first of its kind in the United States.

The clinic will be a health care option for employees, who currently get care through Heritage National Healthplan, a plan established by Deere, or through a traditional health insurance plan. Deere believes the clinic will help bring its annual health care costs, which will exceed $200 million in 1991, under control.

Plasma Center Moves to Suburbs

As part of a growing national trend, the Minneapolis Plasma Center relocated in June from inner-city Minneapolis to suburban Coon Rapids.

Several centers nationwide have been moving in an effort to change their image, said Jim Reilly, vice president of the American Blood Resources in Maryland. Customers buying plasma collected in inner cities often question its purity because of the donors, even though the blood is perfectly acceptable, said Reilly.

The new Coon Rapids center, run by Cutter Biological/Miles Inc., hopes to attract middle-class donors with fewer infectious diseases and other medical problems that can lengthen the donation process and make plasma unusable. Blood donations have dropped off substantially since the center moved to the suburbs; the new center has had about 50 to 70 donors per week during the first three weeks, compared with about 650 per week at the old center.

Socioeconomics

Rural Hospitals Closing

The rural health care crisis has become especially apparent in Minnesota this year, with three small-town hospitals closing, one temporarily shutting down its acute care section, and one shutting down its emergency room. Additionally, Metropolitan-Mount Sinai Medical Center in downtown Minneapolis closed recently. If all closings become permanent, this year could be the state's worst for hospital closings. The previous record was in 1987, when five hospitals closed, including three in St. Paul.

So far this year, the Parkers Prairie District Hospital, Greenbush Community Hospital, and Mountain Lake Community Hospital have closed, the Trimont Community Hospital has temporarily closed its acute care facilities, and the White Community Hospital in Aurora has closed its emergency room. The hospitals have cited financial difficulties, problems recruiting physicians, and population declines as contributing factors. The financial health of small-town hospitals has generally declined since the 1983 change in Medicare payments.

Relatively Low Health Care Costs

Minnesota firms pay considerably less for employee health care coverage than the national average, according to a survey by A. Foster Higgins & Co., a national employee benefits firm. The 1990 average annual premium per Minnesota employee was $2,578 for all types of health care, compared with $3,161 for the national average.

The reason, said David Beech, a principle in the firm's Minneapolis office, is that "the health care delivery system is more efficient in Minnesota, especially in the Twin Cities." He said utilization is managed better here, and plans get more favorable pricing as a result of negotiations with hospitals and doctors.

Minnesota employees pay a larger share of premium costs than the national average, but pay less deductibles and copayments, said Beech.

Cost of medical care in the Twin Cities ranked the lowest of 15 major metropolitan areas in a study conducted by Milliman & Robinson. In analyzing 1990 data from 12 sources, the firm found that costs in the Twin Cities metropolitan area are about 40 percent lower than in Miami-Fort Lauderdale, where they are 138 percent of the national average. Twin Cities costs are 82 percent of the national average.

Governor's Plans for Rural Health

While at a National Governors Association meeting in Sioux Falls, South Dakota, Gov. Arne Carlson said he will ask the 1991 Legislature to fund a rural health care program to encourage small employers to establish health care plans and to attract health care workers to rural areas. Carlson also said at the June meeting that he plans to start an office of rural health at the Minnesota Department of Health.

Metro Kids Lack Immunizations

Medica, Minnesota's largest HMO, said that about 20 percent of the preschoolers it covers in the Twin Cities lack certain immunizations. After reviewing claims data from more than 12,000 children, it found that 21 percent of those between 4 and 6 years old haven't had diphtheria-pertussis-tetanus (DPT) shots and that 18 percent haven't had polio immunizations. In the areas surrounding downtown Minneapolis and St. Paul, 27 percent of children ages 4 to 6 covered by Medica haven't had DPT and 22 percent haven't had polio vaccinations, according to the survey.

Many of Medica's enrollees are Medicaid patients covered under contract with the Minnesota Department of Human Services. The survey found that immunizations are lower for Medicaid children than other children it covers, even though there is no out-of-pocket charge for any immunizations.

Routine Health Screening

The Blue Cross and Blue Shield Association recommended in June that its affiliates expand the use of health screening tests under its policies. Included in the proposal are screening tests for breast, colon, cervical, and lung cancer; heart disease; hypertension; diabetes; thyroid disease; and osteoporosis.

If adopted, the new benefit would raise monthly premiums by an estimated $3 for individuals and $7.50 for families. Blue Cross expects a large majority of the 73 local Blue Cross and Blue Shield affiliates to voluntarily adopt the recommendation. Currently, only 40 percent of the plans offer comprehensive tests.

"Properly applied, the [health screening] guidelines should improve the health of the nation," said Paul Griner, M.D., chairman of the American College of Physicians, which helped formulate the guidelines.

Group Health and PreferredOne Partnership

Group Health announced a new marketing agreement with PreferredOne that will allow the organizations to offer each others' services to clients. The agreement was approved by the Minnesota Department of Health in June.

"We think our agreement benefits both of our organizations by giving us more flexibility, access to a broader enrollee base, and a unique response to the carrier replacement strategies of other managed care organizations," Marcus Merz, PreferredOne's president and CEO, told the *St. Paul Pioneer Press.*

Law & Policy

Tobacco Restrictions Toughened

Shoreview's city council voted to delay enactment of a new ordinance banning clerks under age 18 from selling tobacco. The date was moved from July 11 to October 4 because the council was concerned that some students might lose their summer jobs. The council will take public testimony on the ordinance and vote again before October.

Shoreview's tobacco ordinance also prohibits merchants from openly displaying tobacco products in single, double, or triple packs beginning August 2.

In a similar but less restrictive move, Falcon Heights and Roseville banned self-service tobacco displays and adopted rules requiring individual packages of cigarettes, snuff, and cigars to be sold over the counter. Supporters of the rule claim tobacco displays encourage theft by those under 18, who cannot legally purchase tobacco under Minnesota law. Many merchants claim the ban interferes with their rights.

As part of Iowa's state campaign to reduce tobacco use by the year 2000, a new state law making it illegal for anyone under 18 to smoke went into effect there July 1. If caught by police, young smokers in Iowa could be fined up to $100. The new law is believed to be the toughest of any state, said Carol Sipfle, director of programs for the American Lung Association in Des Moines.

Marijuana for Medical Use

The federal government announced in June that it will no longer approve requests to use marijuana for medical purposes unless a different drug has been tried first. Publicity that marijuana might help AIDS patients regain their appetites caused an increase in applications, said the Public Health Service, but proof of marijuana's value has not been found.

New applicants will be encouraged to try synthetic forms of delta-9-THC, the psychoactive ingredient in marijuana. "There is great concern that the contaminants in natural marijuana might harm these immunity-impaired patients," the agency said.

Innovations

Mayo Tests Prostate Procedure

An experimental, low-cost procedure appears to be as effective as the common, but expensive, surgical procedure used for men with enlarged prostate glands. The new 15-minute procedure involves inserting stainless steel stents into the obstructed part of the urinary tract. Joseph Oesterling, M.D., a urologist at Mayo Clinic, has used the procedure to restore normal urinary flow to 25 men since September.

Patients can usually go home the same day or the morning after with the new procedure. Transurethral prostatectomy, the $12,000 surgical procedure, typically involves three to five days in the hospital. If the clinical trials prove the new method safe, the cost of treating benign prostatic hyperplasia could be reduced by 75 percent.

The stent, manufactured by a Minnetonka-based company, is also in clinical trials at the University of Washington in Seattle and the Indiana University Medical School in Indianapolis. It probably won't be cleared for general use for at least a year.

New Laser Arthroscopy at Abbott

A new type of laser used with the arthroscope at Abbott Northwestern Hospital is believed to be the first use of a laser in orthopedic surgery. The technique appears to significantly reduce both operative and recovery times, the hospital reports.

Orthopedic surgeon James Larson, M.D., has performed 47 holmium laser arthroscopic procedures to remove cartilage, reconstruct ligaments, align kneecaps, or remove arthritis-damaged joint lining. He said that early results appear promising. “Although fewer than 50 cases have been performed, so far patients are returning to normal activity one to two weeks earlier than with traditional arthroscopy,” said Larson, who is teaching the technique to others.

Breakthrough for Diabetics

A new device for testing blood-sugar levels could relieve diabetics from having to prick their fingers up to six times per day. The device, created by Robert Rosenthal of Futrex Inc. in Maryland, shines infrared light through the skin on a person’s finger, and determines the blood-sugar level by measuring how light is absorbed by the body.

The National Institutes of Health plans to conduct clinical trials later this year, said officials. If they go well, the device could win approval from the Food and Drug Administration within one year.

Pigs Produce Human Hemoglobin

In an effort to find a blood substitute for use in all types of transfusions, biologists have used genetic engineering to breed pigs that produce human hemoglobin. Researchers at DNX Inc. of Princeton, New Jersey, said they injected the genes that make human hemoglobin into day-old pig embryos. As a result, about 15 percent of the pigs’ hemoglobin is human.

The extracted hemoglobin has not been tested in humans yet, but DNX plans to apply this year for approval to conduct human trials. If the trials are successful, the blood substitute could likely be stored for months rather than weeks, would not carry risk of passing human infection, and could be transfused into anyone without conducting blood typing and matching. Many questions remain, however, about the safety of using hemoglobin extracted from animals for human transfusion.

Medical Research

Blood Pressure Treatment Effective

Using drugs to treat age-related isolated systolic hypertension, the most common form of high blood pressure in the elderly, can prevent strokes and heart attacks, said researchers from the Systolic Hypertension in the Elderly Program in June.

Researchers at 16 centers across the country, including the University of Minnesota and the Berman Research Center at the former Mount Sinai Medical Center in Minneapolis, randomly assigned 4,736 men and women to placebo treatment or drug treatment with chlorthalidone and/or atenolol. Blood pressures dropped to normal levels for the subjects given drug treatment, and they had 36 percent fewer strokes and 32 percent fewer heart attacks.

The drug-treatment subjects’ death rate was 18 percent lower than the placebo group. The difference would have been greater if the study had continued longer than five years, said University of Minnesota Professor Richard Grimm, M.D., one of the researchers.

The study found very few side effects from the drugs, despite concern that the treatments might cause dementia or depression in elderly patients.

Lyme Disease Declines

Lyme disease cases declined last year, going from 8,803 in 1989 to 7,997 in 1990, reported the U.S. Centers for Disease Control June 27. Researchers said they do not know if the disease has reached a plateau or just temporarily slowed down. A similar drop in cases occurred in 1986, but the number of cases nearly doubled each year from 1986 to 1989. The decline may be due to a decrease in the population of ticks that carry Lyme disease, said researchers.

Vaccines Worth Small Risk

DPT and rubella vaccines appear to have rare side effects, but the benefits of using the vaccines far outweigh the small risks, concluded researchers at the Institute of Medicine July 3. DPT vaccine appears to cause a potentially fatal allergic reaction in an extremely small number of people and may also be linked to temporary discomfort among larger groups of people. Rubella vaccine appears to cause arthritic symptoms in some women. But the study group concluded that the “causal relationships” are too unclear to warrant any changes in current policies regarding administration of the vaccines. The researchers called for additional studies to clarify the link between the side effects and the vaccine.

Better AIDS Treatments

The drug Bactrim appears to be better at preventing pneumonia in AIDS patients than a commonly used inhalant, said Australian researchers at a satellite symposium for the Seventh International Conference on AIDS held in Florence, Italy. In their study, only 2 percent of AIDS patients taking Bactrim suffered relapse of pneumonia, compared with 42 percent of those using aerosolized pentamadine, said researchers.

San Diego researchers announced at the June symposium that according to preliminary evidence, a combination of AZT and DDC is more effective at preventing immune collapse in advanced-stage AIDS patients than AZT alone. **MM**

A Calendar of Continuing Medical Education Courses

Provided through the MMA Medical Education Subcommittee on CME Resources. For assistance with scheduling meetings or for information on future medical meetings and CME courses at the state and national level, please contact the MMA office: 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414; 612/378-1875. Information for each entry is arranged by date; name of program; primary sponsor; location; contact person.

AUGUST 1991

Aug. 2 **Pre-Pregnancy Counsel in the Patient with Insulin-Dependent Diabetes Mellitus** United Hospital; Conference Hall of St. Paul Heart & Lung Center, St. Paul, MN. CONTACT: Jason North, Health One Corp., 2810 57th Avenue North, Minneapolis, MN 55430-2496; 612/574-7658.

Aug. 5-9 **Team Management of Diabetes Mellitus** International Diabetes Center; International Diabetes Center, Minneapolis, MN. CONTACT: Cindy Poppitz, International Diabetes Center, 5000 West 39th Street, Minneapolis, MN 55416; 612/927-3393.

Aug. 9-10 **Lasers in Orthopedic Surgery** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, CME Office 14202, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

Aug. 17 **Current Concepts in Glaucoma Surgery** Phillips Eye Institute Center for Teaching & Research; Phillips Eye Institute, Minneapolis, MN. CONTACT: Mary Strazz, Phillips Eye Institute, 2215 Park Avenue South, Minneapolis, MN 55404; 612/336-5309.

Aug. 19-22 **Update in Gastroenterology and Hepatology, Mayo Clinic-Vienna Medical Association Symposium** Mayo Clinic and Mayo Foundation; Vienna, Austria. CONTACT: Secretary to Dr. Sidney Phillips, Mayo Clinic, St. Mary's GI Unit, 200 1st Street SW, Rochester, MN 55905; 507/285-6028.

Aug. 19-23 **Team Management of Diabetes Mellitus** International Diabetes Center; International Diabetes Center, Minneapolis, MN. CONTACT: Cindy Poppitz, International Diabetes Center, 5000 West 39th Street, Minneapolis, MN 55416; 612/927-3393.

Aug. 25-28 **First International Congress on Xenotransplantation** Office of CME, University of Minnesota Medical School; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Aug. 26-30 **Team Management of Diabetes Mellitus** International Diabetes Center; International Diabetes Center, Minneapolis, MN. CONTACT: Cindy Poppitz, International Diabetes Center, 5000 West 39th Street, Minneapolis, MN 55416; 612/927-3393.

SEPTEMBER 1991

Sept. 4-7 **Annual Orthopaedic and Trauma Seminar** HCMC and Hennepin Faculty Associates; Hennepin County Medical Center, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Sept. 5 **Topics in Pediatric Emergency Medicine** Minneapolis Children's Medical Center; Massie Moos Auditorium Education Building, Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Kathy Ingerson, Minneapolis Children's Medical Center, 2525 Chicago Avenue South, Minneapolis, MN 55404; 612/863-5884.

Sept. 5-7 **Teaching Geriatric Medicine** Office of CME, University of Minnesota Medical School; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Sept. 6 **Annual Clinical Management of Osteoporosis** HCMC and Hennepin Faculty Associates; location to be announced. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Sept. 6-7 **Mayo Surgical Symposium** Mayo Clinic and Mayo Foundation; Mayo Clinic, Rochester, MN. CONTACT: Rita Kunz or Jan Fleck, Mayo Clinic, 200 1st Street SW, Rochester, MN 55905; 507/284-2509 or 800/323-2688.

Sept. 7 **Atherosclerosis: Beyond Cholesterol** Office of CME, University of Minnesota Medical School; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Sept. 7 **Ophthalmic Plastic Surgery Update** Phillips Eye Institute Center for Teaching & Research; Phillips Eye Institute, Minneapolis, MN. CONTACT: Mary Strazz, Phillips Eye Institute, 2215 Park Avenue South, Minneapolis, MN 55404; 612/336-5309.

Sept. 13-14 **Advanced Laparoscopic Abdominal Surgery Seminar** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, CME Office 14202, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

Sept. 13-15 **Surgical Medical Clinics for Primary Care** Office of CME, University of Minnesota Medical School; Grandview Lodge, Brainerd, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Health One Medical Education

August 2
PRE-PREGNANCY COUNSEL IN THE PATIENT WITH INSULIN-DEPENDENT DIABETES MELLITUS
Presented by Steven G. Gabbe, M.D.
7:30 a.m., St. Paul Heart & Lung
Conference Center, St. Paul

August 8
DIAGNOSIS AND MANAGEMENT OF NECK MASSES
Presented by Merrill Biel, M.D.
12:30 p.m., Sioux Valley Hospital, New Ulm

August 17
CURRENT CONCEPTS IN GLAUCOMA SURGERY
Presented by Dan Nichols, M.D.
Phillips Eye Institute
Center for Teaching/Research
2215 Park Avenue, Minneapolis

September 19 & 20
PRACTICAL PEDIATRICS CONFERENCE
Sponsored by Children's Hospital
St. Paul Heart & Lung Conference Center

October 11
CURRENT CLINICAL CARDIOLOGY FOR PHYSICIANS AND 10TH ANNUAL JESSE E. EDWARDS, MD, LECTURE
St. Paul Heart & Lung Conference Center

For further information contact the Office of Continuing Medical Education, Health One (612) 574-7895 or call toll-free 1-800-343-3627

Health One®
Medical Affairs Division

® Health One Corporation

Sept. 19-20 **Annual Trauma and Critical Care Conference** HCMC and Hennepin Faculty Associates; Hennepin County Medical Center, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Sept. 19-20 **Practical Pediatrics** Children's Hospital of St. Paul; United Children's Conference Center, St. Paul, MN. CONTACT: Sue Hance, Health One CME, 2810 57th Avenue North, Minneapolis, MN 55430; 612/574-7895 or 800/347-3627.

Sept. 20 **Pain Management Strategies for Primary Care** HCMC and Hennepin Faculty Associates; Hennepin County Medical Center, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Sept. 20 **Prostate Seed Implantation: A Practical Course** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, CME Office 14202, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

Sept. 20-21 **American College of Surgeons Commission on Cancer** Cancer Management Course; Mayo Clinic Facilities, Rochester, MN. CONTACT: Dr. John Donohue or Dr. David Nagorney, Mayo Clinic, Department of Surgery, Rochester, MN 55905; 507/284-2644.

Sept. 20-21 **Nursing Home Medical Directors** Office of CME, University of Minnesota Medical School; Sheraton Midway Hotel, St. Paul, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Sept. 22-24 **International Conference on the Treatment of Sex Offenders** Office of CME, University of Minnesota Medical School; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Sept. 26-27 **Annual Autumn Seminar: Obstetrics and Gynecology** Office of CME, University of Minnesota Medical School; Park Inn, Minneapolis, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Sept. 26-27 **Annual Mayo Clinic Update in Hepatology** Mayo Clinic and Mayo Foundation; Mayo Clinic, Rochester, MN. CONTACT: Rita Kunz or Jan Fleck, Mayo Clinic, 200 1st Street SW, Rochester, MN 55905; 507/284-2509 or 800/323-2688.

Sept. 27 **Annual Contemporary Issues in Dialysis Therapy** HCMC and Hennepin Faculty Associates; Sheraton Midway Hotel, St. Paul, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Sept. 27 **Thrombolytic Therapy in Acute MI** Abbott Northwestern Hospital; Minneapolis Heart Institute, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

Sept. 27 **Cardiac Arrhythmias** Office of CME, University of Minnesota Medical School; location to be announced. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Sept. 27 **Oncology Conference** The Duluth Clinic, Ltd.; Fitger's Spirit of the North Theatre, Duluth, MN. CONTACT: Barbara Jablonski, CME Manager, 400 East Third Street, Duluth, MN 55805; 218/725-3816.

Sept. 27-28 **Sexual Attitude Reassessment Seminars (SAR)** Program in Human Sexuality; Holiday Inn Metrodome, Minneapolis, MN. CONTACT: SAR Coordinator or Secretary, Program in Human Sexuality, FMC Building, 1300 South Second Street, Minneapolis, MN 55454; 612/625-1500.

Sept. 27-29 **Update in Cardiovascular Diseases** Mayo Clinic and Mayo Foundation; Mayo Clinic, Rochester, MN. CONTACT: Rita Kunz or Jan Fleck, Mayo Clinic, 200 1st Street SW, Rochester, MN 55905; 507/284-2509 or 800/323-2688.

OCTOBER 1991

Oct. 2-4 **Fourth International Symposium on Biliary Stone Therapy** Mayo Clinic and Mayo Foundation; Mayo Clinic, Rochester, MN. CONTACT: Rita Kunz or Jan Fleck, Mayo Clinic, 200 1st Street SW, Rochester, MN 55905; 507/284-2509 or 800/323-2688.

Oct. 2-4 **Internal Medicine Review: Cardiology, Hematology, Endocrinology** Office of CME, University of Minnesota Medical School; Mayo Memorial Auditorium, Minneapolis, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Oct. 3-4 **Annual Forensic Science Seminar** HCMC and Hennepin Faculty Associates; Hennepin County Medical Center, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Oct. 5 **The Business of Medicine—Fourth Annual Resident Recruitment Fair** Health One; United/Children's Conference Center, St. Paul, MN. CONTACT: Sue Hance, Health One CME, 2810 57th Avenue North, Minneapolis, MN 55430; 612/574-7895 or 800/347-3627.

CONTINUING MEDICAL EDUCATION

ST. PAUL-RAMSEY MEDICAL CENTER

Fall-Spring Conference Schedule

Mark your calendar now for these upcoming conferences:

1991	
October 18	Exploring the Interface Between Asian and Western Health Care Practices, St. Paul
October 24-25	Emergency Medicine for Primary Care Physicians, St. Paul
November 14-16	Primary Care Medicine, St. Paul
November 19	Advanced Burn Life Support Pre-hospital, St. Paul
November 20	Advanced Burn Life Support Pre-hospital, St. Paul
November 21-22	Annual Trauma Conference, St. Paul
December 5-7	Cardiopulmonary Medicine, St. Paul
1992	
February 7	Domestic Violence: Assessment & Plan for Physician Action, St. Paul
February 14	Burn Care Today, St. Paul
March 12-13	Family Practice Update, St. Paul
March 20	Occupational Medicine Update, St. Paul
March 26-27	Critical Care: Practical Approaches & Case Discussions, St. Paul
April 2-3	Ob/Gyn Update, St. Paul
April 3	ENT Update, St. Paul

Information and Registration

Continuing Medical Education, St. Paul-Ramsey Medical Center,
640 Jackson Street, St. Paul, MN 55101; Phone 612/221-3992.

CME

640 Jackson Street
St. Paul, MN 55101
(612) 221-3992

RAMSEY

Oct. 8 **Biofeedback for Colorectal Disorders** Office of CME, University of Minnesota Medical School; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Oct. 8 **Ramsey Research Conference** St. Paul-Ramsey Medical Center; St. Paul-Ramsey Medical Center Amphitheater, St. Paul, MN. CONTACT: Bonnie Young, 640 Jackson Street, St. Paul, MN 55101; 612/221-3992.

Oct. 9-12 **Colon and Rectal Surgery** Office of CME, University of Minnesota Medical School; Mayo Memorial Auditorium, Minneapolis, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Oct. 11 **Annual Advances in Geriatric Care** HCMC and Hennepin Faculty Associates; Hennepin County Medical Center, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

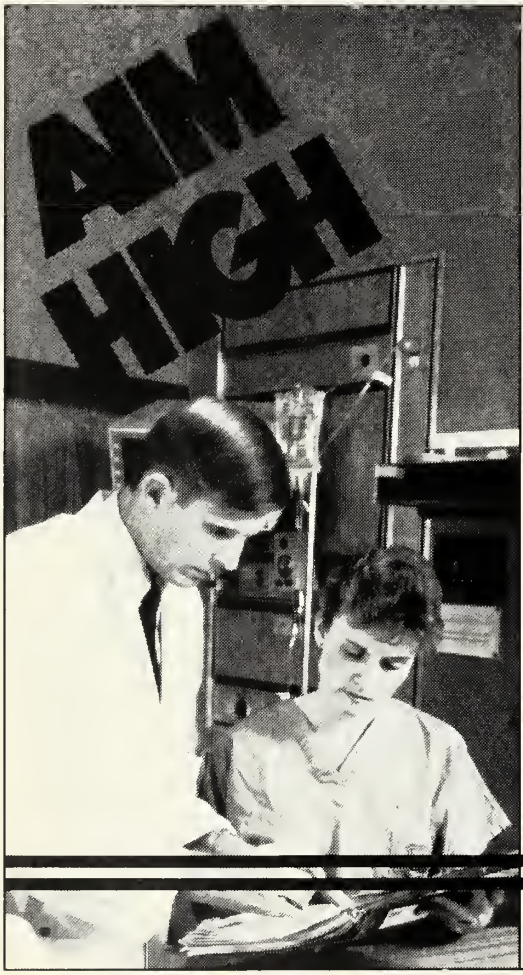
Oct. 11 **Current Clinical Cardiology & the 10th Annual Jesse E. Edwards Lectureship** St. Paul Heart Clinic/Health One CME; United Children's Conference Center, St. Paul, MN. CONTACT: Sue Hance, Health One CME, 2810 57th Avenue North, Minneapolis, MN 55430; 612/574-7895 or 800/347-3627.

Oct. 11-12 **Adolescent Sexuality: Issues for the 1990s** Office of CME, University of Minnesota Medical School; Holiday Inn Downtown, Minneapolis, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Oct. 11-12 **Endoscopic Sinus Surgery** Office of CME, University of Minnesota Medical School; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Oct. 11-12 **Advanced Laparoscopic Abdominal Surgery Seminar** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, CME Office 14202, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

Oct. 12 **Pulmonary Update for Primary Care Physicians** Mayo Clinic/Mayo Foundation; Mayo Clinic, Rochester,



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MN. CONTACT: Rita Kunz or Jan Fleck, Mayo Clinic, 200 1st Street SW, Rochester, MN 55905; 507/284-2509 or 800/323-2688.

Oct. 14-15 **Advanced Trauma Life Support (ATLS)** Health One; United Children's Conference Center, St. Paul, MN. CONTACT: Sue Hance, Health One CME, 2810 57th Avenue North, Minneapolis, MN 55430; 612/574-7895 or 800/347-3627.

Oct. 14-18 **Radiology 1991: Cardiovascular and Interventional Radiology** Office of CME, University of Minnesota Medical School; Hyatt Regency Hotel, Minneapolis, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Oct. 18 **Current Topics in Neurology & Psychiatry** HCMC and Hennepin Faculty Associates; Minneapolis Athletic Club, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Oct. 18 **Antimicrobials in the '90s: Expanded Options for Effective Patient Care** Office of CME, University of Minnesota Medical School; University of Minnesota Health Sciences Medical Center, Minneapolis, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Oct. 18 **Exploring the Interface Between Asian and Western Health Care Practices** St. Paul-Ramsey Medical Center; Holiday Inn East, St. Paul, MN. CONTACT: Bonnie Young, 640 Jackson Street, St. Paul, MN 55101; 612/221-3992.

Oct. 18-19 **Front Line Neurology: Primary Care Management of Patients with Neurological Problems** Abbott Northwestern Hospital; Marriott City Center, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

Oct. 18-19 **Lasers in Orthopedic Surgery** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, CME Office 14202, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

Oct. 20 **ENT for Primary Care Physicians** Mayo Clinic/Mayo Foundation; Leighton Auditorium, Mayo Clinic, Rochester, MN. CONTACT: Rita Kunz or Jan Fleck, Mayo Clinic, 200 1st Street SW, Rochester, MN 55905; 507/284-2509 or 800/323-2688.

Oct. 24-25 **Emergency Medicine for Primary Care Physicians** St. Paul-Ramsey Medical Center, Holiday Inn East, St. Paul, MN. CONTACT: Bonnie Young, 640 Jackson Street, St. Paul, MN 55101; 612/221-3992.

Oct. 25-26 **Fourth Annual New Ulm Fall Seminar** Sioux Valley Hospital/Health One; Sioux Valley Hospital, New Ulm, MN. CONTACT: Sue Hance, Health One CME, 2810 57th Avenue North, Minneapolis, MN 55430; 612/574-7895 or 800/347-3627.

Oct. 25-26 **Symposium on Facial Malignancy & Reconstruction** Office of CME, University of Minnesota Medical School; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

NOVEMBER 1991

Nov. 1 **Thrombolytic Therapy in Acute MI** Abbott Northwestern Hospital; Minneapolis Heart Institute, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

Nov. 1 **Upper Midwest Sleep Society Meeting** HCMC and Hennepin Faculty Associates; St. Paul Hotel, St. Paul, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Nov. 1-2 **Lasers in Gynecology: An Advanced Seminar** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, CME Office 14202, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

Nov. 2-3 **1991 Gynecologic Review for Primary Care Physicians** Mayo Clinic/Mayo Foundation; Mayo Clinic, Rochester, MN. CONTACT: Rita Kunz or Jan Fleck, Mayo Clinic, 200 1st Street SW, Rochester, MN 55905; 507/284-2509 or 800/323-2688.

Nov. 7-8 **Medical Intensive Care Conference** HCMC and Hennepin Faculty Associates; Hennepin County Medical Center, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Nov. 8 **Pediatric Orthopedics/Rheumatology for the Primary Care Practitioner** Minneapolis Children's Medical Center; Massie Moos Auditorium Education Building, Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Kathy Ingerson, Minneapolis Children's Medical Center, 2525 Chicago Avenue South, Minneapolis, MN 55404; 612/863-5884.

Nov. 8 **E.T. Bell Fall Pathology Symposium** Office of CME, University of Minnesota Medical School; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Nov. 8-9 **Symposium on Sports Medicine** Mayo Clinic/Mayo Foundation; Mayo Clinic, Rochester, MN. CONTACT: Rita Kunz or Jan Fleck, Mayo Clinic, 200 1st Street SW, Rochester, MN 55905; 507/284-2509 or 800/323-2688.

Nov. 9 **Third Annual Health One Oncology Conference** Health One; Marriott City Center Hotel, Minneapolis, MN. CONTACT: Sue Hance, Health One CME, 2810 57th Avenue North, Minneapolis, MN 55430; 612/574-7895 or 800/347-3627.

Physician Opportunities and Miscellaneous Listings

Classified rates are 50¢ a word. Minimum monthly charge is $10; with box number $2 additional. Ads will not be accepted by phone.

- Placement of ads must be made six weeks before the date of publication (i.e., August 15 for October ad). Please send ad requests to *Minnesota Medicine*, 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414.
- The publisher reserves the right to decline or withdraw advertisements. The publisher is not responsible for clerical or typographical errors and is not permitted to divulge the identity of advertisers who have replies sent to box numbers.
- Cancellation of ads must be made by the first of the month preceding month of issue.

Family Physician wanted to join four physicians, one nurse practitioner, FP group practicing in two offices in Pine River and Pequot Lakes. Competitive salary. No ob. No HMOs. Rural area with outdoor recreational opportunities. Rotate call; adequate free time. Call or write: Gary G. Kohls, M.D., Pine and Lakes Clinics, PO Box 88, Pine River, MN 56474; 218/587-4416. (R)

Family Physician: Dynamic 14-physician, two-PA, three-office, single-specialty practice in northwest Minneapolis suburbs seeking additional associate, BC/BE; ob available. Competitive salary, full benefits, reasonable call and hospital rounds schedule. Contact: Dr. Diane Shuck, 612/537-8405; or Mark Pottanger, 612/537-8475, Northwest Family Physicians. (*R)

Wausau Medical Center is seeking BC/BE individuals in the following specialties: cardiology, dermatology, family practice, infectious disease, obstetrics/gynecology, pediatrics, and rheumatology. Modern clinic facility located across the street from modern, 300-bed hospital. Full partnership in three years. Easy access to lakes, woods, and mountains. Write (including CV) to: D.K. Aughenbaugh, M.D., Medical Director, Wausau Medical Center, 2727 Plaza Drive, Wausau, WI 55401. (R)

Johnson & Falls Search Associates represents new practice opportunities locally and nationally. Working exclusively in the area of physician search, we are committed to expanding your professional options while meeting our clients' needs. There are no fees to candidates. For a thorough, confidential search, send CV or call: Liz Johnson or Pat Falls, Johnson & Falls Search Associates, 34 Forest Dale Road, Minneapolis, MN 55410; 612/922-0237. (R)

Bemidji, Minnesota: Excellent opportunities for well-trained physicians. We are seeking BC/BE physicians in family practice, ophthalmology, pediatrics, and otolaryngology to join a young 30-physician multispecialty group practice located in northern Minnesota. Competitive salary guarantee plus incentive first year and excellent benefits. An excellent opportunity for a physician to enjoy practice in the center of hunting, fishing, and clear air. Please respond with CV to: C.C. Lowery, Administrator, Bemidji Clinic-MeritCare, 1233 34th Street NW, Bemidji, MN 56601; 218/751-1280. (R)

Family Practice: Physicians seeking a BC/BE family practice physician for the Norway, Michigan, service area. The physician would have the option of joining one of the existing practices and/or setting up his/her own practice. Anderson Memorial Hospital is a part of Dickinson County Hospitals and has a service-area population of over 45,000. Contact: Dr. Paul Hayes' office, 906/563-9255, or Dr. William Gladstone's home, 906/563-8743. Anderson Memorial Hospital, Main Street, Norway, MI 49870; 906/563-9243. 2-9/91

Internist to join a progressive 13-physician group practice. Rural college town 30 miles from St. Paul, Minnesota, constructing new clinic and hospital. Contact: Robert B. Johnson, M.D., River Falls, WI 54022; 715/425-6701. (*3/91-R)

Urgent Care/Primary Care physicians for over 90 group positions in metropolitan Phoenix/Tucson, Arizona. Excellent compensation/partnership opportunities. Other quality positions nationwide. Send CV or call: Mitch Young (MM), PO Box 1804, Scottsdale, AZ 85252; 602/990-8080. (*1/90-R)

Mankato: FP partner to join four board-certified family physicians, ages 34-43, in fast-growing, full-range practice. Ob optional. Population 40,000+. Seventy miles to Twin Cities. Four colleges nearby. Subspecialty consultation readily available on hospital staff. Academic appointment available. Call: Tony Giefer, M.D., 507/387-8231. (8/91-R)

Family Physicians: Well-established south suburban Minneapolis family practice group seeks associates part/full time to staff day clinic. Excellent call schedule, salary, and fringe benefits. Also seeking locum tenens to staff PT/FT Urgent Care Centers and/or day clinic. Contact: Administration, Family Physicians, P.A., 612/435-4125, or send inquiries to Suite 100, 14050 Nicollet Avenue South, Burnsville, MN 55337. (*9/89-R)

Mankato Clinic, Ltd. is seeking BC/BE physicians in the following specialties: dermatology, invasive cardiology, ob/gyn, oncology/hematology, pulmonary medicine, vascular surgery, family practice, pediatrics, and general internal medicine. The Mankato Clinic is a 43-doctor multispecialty group practice in south-central Minnesota with a trade area population of +200,000. Guaranteed salary first year, incentive thereafter with full range of benefits and liberal time off. For more information call: Roger Greenwald, Administrator, or Dr. B.C. McGregor, 507/625-1811, or write: 501 Holly Lane, Mankato, MN 56001. (6/90-R)

Family Practitioner to join a progressive 13-physician group practice. Rural college town 30 miles from St. Paul, Minnesota, constructing new clinic and hospital. Contact: Robert B. Johnson, M.D., River Falls, WI 54022; 715/425-6701. (*3/90-R)

BC/BE Family Practice and Ob/Gyn Physician: Excellent opportunity to join well-established, progressive, 20-physician multispecialty group located in an economically sound community of 20,000 (drawing area of 40,000), 65 miles south of the Twin Cities. Full membership after one year. Competitive salary and fringe benefits package. Contact: Ed Durst, M.D., or Terry Tone, Administrator, 134 Southview, Owatonna, MN 55060; 507/451-1120. (8/91-R)

Forest Lake Doctor's Clinic is seeking a BC/BE family physician, pediatrician, ob/gyn, and internist to join 10-physician multispecialty group. Located 25 miles north of Minneapolis-St. Paul in progressive community with excellent schools, many beautiful lakes, recreational activities, golf, fishing, boating, skiing. Local hospital directly across street. Contact: Dr. Harvey J. Frank or Dr. Doug Sill, 121 SE 11th Avenue, Forest Lake, MN 55025; 612/464-7100. (4/90-R)

Family Physician: Tired of call? Want predictable hours? Full-time physician needed to work three days per week in our outpatient family practice clinics. One position open immediately. Salary plus bonus and benefits package including malpractice insurance. Contact: Todd Patton, M.D., or William Wenmark, CEO, c/o NOW Care Medical Centers, 13031 Ridgedale Drive, Minneapolis, MN 55343; 612/593-9010. (5/90-R)

Downtown Office Space for Rent: Physician in the Medical Arts Building, 825, wishes to sublet to another physician on a part-time basis for the purpose of sharing overhead expenses. Call: 612/370-0553. (6/90-R)

Community Health Center, Inc. / North Shore Lake Superior is currently seeking BC/BE physicians in the following specialties: family practice and general internal medicine, to join busy practice in primary care clinic of four family physicians with consulting psychiatrist, ophthalmologist, general surgeon, and orthopedic surgeon. Advantages of living in a small town while being only 22 miles from Duluth metro area. Contact: Lee Cohen or Steve Bjorum, Administrator, Community Health Center, Inc., 1010 Fourth Street, Two Harbors, MN 55616; 218/834-7207. EOE/AA. (8/91-R)

Olmsted Medical Group is currently seeking BC/BE physicians in the following specialties: general surgery, family practice, emergency medicine, pediatrics, and ob/gyn. Excellent opportunity for well-trained physicians to join a 50+ physician multispecialty group in an established, progressive practice. In addition to the recently expanded main office in Rochester, Minnesota, the group operates eight branch offices in southeastern Minnesota. Affiliate hospital recently underwent complete renovation and expansion. Competitive salary/benefits package includes malpractice insurance, flexible benefits plan, 401(k) and profit sharing, and relocation assistance. Send CV to: Olmsted Medical Group, Attn: Susan Schuett, 210 Ninth Street SE, Rochester, MN 55904. (8/90-R)

ST. CLOUD MEDICAL GROUP, P.A.

St. Cloud Medical Group, a 22 physician Multi-specialty Group, is now recruiting BC/BE physicians in the following specialities:

- Occupational Medicine
- Pediatrics
- Family Practice

Guaranteed first year salary. Production program thereafter with a full fringe benefit package.

If interested in joining a progressive Medical Group in Central Minnesota, call or send C.V. to:

Daryl G. Mathews
Administrator
St. Cloud Medical Group
1301 W. St. Germain Street
St. Cloud, MN 56301
612-251-8181

Lake City, Minnesota: Family physician BC/BE needed to join three other FPs in progressive, growing practice on Lake Pepin/Mississippi River in southeastern Minnesota. Excellent first-year salary/benefits in a scenic community with multiple recreational opportunities. Contact: D.D. Pflaum, M.D., 303 South Washington, Lake City, MN; 612/345-3318. (8/90-R)

MDsearch assists medical groups and hospitals in their recruiting efforts. For confidential information on opportunities in the Upper Midwest, send CV and/or call collect: Mary Jo Cordes, MDsearch, PO Box 21507, St. Paul, MN 55121; 612/454-7291. 12-8/91

Family Practice—Hospital-sponsored Clinic Opportunity: Dynamic, growth-oriented hospital in beautiful north-central Wisconsin is seeking family physicians to join a growing practice in a new facility. The administrative burdens of

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Family Physician BC/BE: Immediate opportunity to join family practice clinic in Minneapolis. Practice will allow part-time or full-time schedule. Competitive salary and benefits. Interested candidates send CV to: Jean Burns, 10501 Wayzata Blvd., Minnetonka, MN 55343; 612/544-2605. (3/91-R)

Health Service on a 2,000-student, liberal arts campus, plus solid clinic practice with group of eight physicians, ob optional. One hundred miles south of Fargo, or 150 miles west of Minneapolis/St. Paul. Contact: Mike Busian, M.D., or Mike Flicker, Administrator, Morris Medical Center, 23 Montana Avenue, Morris, MN 56267; 612/589-3232. 6-8/91

Wisconsin: 120-physician multispecialty clinic in the Fox River Valley of northeastern Wisconsin desires two BC/BE pediatricians to join department of 15 BC/BE pediatricians. Excellent compensation and benefits package, leading to shareholder status after two years. The community offers a superb recreational, cultural, and family environment in which to practice. For information please call or write: Howard Kidd, M.D., La Salle Clinic, 411 Lincoln Street, Neenah, WI 54956; 414/727-4276. (3/91-R)

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Family Physician wanted to join three board-certified M.D.s in well-established, expanding group practice. Weekend ER coverage. No buy-in. Financial package hard to beat. Enjoy a progressive, rural city within easy reach of St. Cloud and Minneapolis. Contact: Dr. Jim Mohs, Melrose Clinic, 603 West Main Street, Melrose, MN 56352; office, 612/256-4228; home, 612/256-3488. (4/91-R)

General Surgeon to join a progressive 12-physician group practice. Rural college town 30 miles from St. Paul, Minnesota, constructing new clinic and hospital. Contact: Robert B. Johnson, M.D., River Falls, WI 54022; 715/425-6701. (*4/91-R)

Internal Medicine and Family Practice Physicians—BC/BE: Exceptional opportunity to join our well-established, very busy multispecialty clinic located in Milwaukee. Attractive and well-equipped building, including in-house laboratory, X-ray department, business department, etc. Excellent progressive hospitals, medical school, regional medical center.

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Family Practitioner: Community of 2,000, 50 miles northeast of Minneapolis/St. Paul, seeks additional family practitioner. Located on the St. Croix River and Minnesota border. Practice consists of 13 family practitioners, two internists, two general surgeons, and one orthopedic surgeon. Many specialists available on a part-time basis. Attached to a 90-bed hospital with comprehensive services available. Very stable medical group with pleasant working conditions in a continuous growth mode. Guaranteed first-year salary with second-year partnership. Fringes include excellent retirement package and auto. Contact: Lenny Libis, Administrator, at 715/483-3221. 6-10/91

Mora, Minnesota—Family Physician needed to join a seven-member FP group. We are a well-established, expanding practice and offer competitive salary and benefits package with partnership available. We have JCAHCO-accredited hospital, on-site consultations from numerous specialty disciplines, satellite offices located in Pine City and Hinckley. Mora is a progressive community located 65 miles north of the Twin Cities with an excellent school system and many cultural and recreational opportunities within easy access. Contact: Larry J. Brettingen, M.D., 224 Seventh Street, Mora, MN 55051; 612/679-1340. 6-10/91

Physician: BC in emergency medicine, experienced in FP (no ob), and licensed in Minnesota, South Dakota, Wisconsin, available for locum tenens coverage. Reply to: Minnesota Medicine (850), 2221 University Avenue SE, Suite 400, Minneapolis, MN 55414. (5/91-R)

Seventeen-physician Multispecialty Group needs FP, IM, ob/gyn, and peds. Located on the edge of the Ozarks only one hour from St. Louis. Excellent community to raise a family. Excellent school systems and a service area of 200,000 residents. Excellent benefits. Contact: Ronald Stevens, Administrator, Medical Arts Clinic, 301 West Liberty Street, Farmington, MO 63640; 314/756-6751. 3-8/91

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Family Physician: Part-time positions staffing Convenience Care Medical Center. Competitive hourly salary plus malpractice insurance. Call or write: Bob Kantor, M.D., Grove Square Convenience Care, 13800 83rd Way, Maple Grove, MN 55369; (hm) 612/591-0437, (wk) 612/420-5379. 4-9/91

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Urgent Care: Marshfield Clinic is seeking physicians trained and certified in primary care (family practice, internal medicine, pediatrics, or emergency medicine) to join newly developing urgent care practice in Marshfield, Wisconsin. Specialists representing all branches of medicine and surgery provide support care and services. A full-time physician will work 45-60 hours per week, usually four 12-hour days, including periodic weekends and holidays. Opportunities exist to combine this practice with an ER practice if desired. Marshfield was recently designated by *American Demographics* as one of the best small cities in the Midwest and America. Wisconsin offers a wonderful four-season, recreation-oriented lifestyle, and this position with fixed hours will afford the leisure time to enjoy it. Compensation includes a competitive salary along with one of the finest fringe benefits packages in the country. If you would like to combine professional excellence with personal satisfaction and this opportunity sounds interesting to you, please send CV and references to: David L. Draves, Director, Physician Staffing, 1000 North Oak Avenue, Marshfield, WI 54449; or call: 800/826-2345, Ext. 5376. *4-9/91

Internal Medicine, Pediatrics, and Dermatology practice opportunities available at the Faribault Clinic. The Faribault Clinic is a multispecialty group practice of 19 physicians. Faribault is located 50 miles south of Minneapolis on I-35. For more information contact: Ray W. Wood, M.D., or Ken Smith, Administrator, 924 NE First Street, Faribault, MN 55021; 507/334-3921. (4/90-R)

Stillwater: Multispecialty group with emphasis on primary care seeking BC/BE family physician and internist. Scenic location with excellent school system, supportive medical community with strong local hospital, competitive salary and benefits. Send CV to: Jon Petersen, St. Croix Valley Clinic, 921 Greeley, Stillwater, MN 55082; 612/439-2215. (6/91-R)

Issues in Primary Care: September 20-21, 1991. Landmark Inn Resort, Egg Harbor, Wisconsin. For more information contact: Nadine Punke, Office of Medical Education, Marshfield Clinic, 1000 North Oak Avenue, Marshfield, WI 54449; 715/387-5207. 3-8/91

Wisconsin: Third BC/BE obstetrician/gynecologist needed to join stable, progressive, primary-care-based HMO/group practice in university town of 60,000 near Minneapolis/St. Paul. Excellent quality of life and outstanding recreational area. Competitive salary and fringe benefits. Contact: Stuart R. Lancer, M.D., Medical Director, Group Health Cooperative, PO Box 3217, Eau Claire, WI 54702-3217; 715/836-8552. *3-9/91

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Physician: Retired M.D. (general surgeon), seeking part-time employment in the health care field. Prefer administrative position, routine exams, health care evaluations, pre-employment physicals, teaching duties, etc. Resume available. Write: Minnesota Medicine (852), 2221 University Avenue SE, Suite 400, Minneapolis, MN 55414. 2-8/91

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Pulmonologist, St. Cloud, Minnesota: Opportunity available in a growing 31-physician clinic of specialists and subspecialists of internal medicine. Growing community has three colleges, excellent school system, and abundant recreational activities. Family living conditions are excellent! The St. Cloud Clinic is located in a new facility with access to the latest in medical technological developments.

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For more information contact
Tom Harrer, Administrator

North Clinic

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(612) 588-4625

For more information about this position, please contact: Brad E. Currier, M.D., or Mark Murphy, Administrator, 1200 Sixth Avenue North, St. Cloud, MN 56303; 612/252-5131. 3-9/91

Wisconsin—Family Practitioner Needed by progressive and growing group practice in west-central Wisconsin city of 60,000. Ninety miles from Minneapolis/St. Paul. Primarily prepaid practice with large component FFS. Highly competitive salary with excellent fringe benefits. Practice high-quality care in a good recreational area. Send CV to: Stuart Lancer, M.D., PO Box 3217, Eau Claire, WI 54702-3217; 715/836-8552. *3-9/91

Endocrinologist, St. Cloud, Minnesota: Opportunity available in a growing 31-physician clinic of specialists and subspecialists of internal medicine currently with two established endocrinologists. Growing community has three colleges, excellent school system, and abundant recreational activities. Family living conditions are excellent! The St. Cloud Clinic is located in a new facility with access to the latest in medical technological developments. For more information about this position, please contact: Brad E. Currier, M.D., or Mark Murphy, Administrator, 1200 Sixth Avenue North, St. Cloud, MN 56303; 612/252-5131. 3-9/91

Vacations: Marco Island, Florida. Elegantly decorated 2br/2ba condo with gulf view. Miles of white sandy beach. Tennis, pool, other amenities. $2,700/mo., December-April; $1,500/mo. rest of the year. K. Hiduchenko, M.D., 612/339-1184. 3-10/91

General Surgeon: Five-man family practice group seeks surgeon. Only clinic in city of 8,000, one hour from Minneapolis. Position should generate adequate salary and lots of family time. Write: Minnesota Medicine (853), 2221 University Avenue SE, Suite 400, Minneapolis, MN 55414. (8/91-R)

Northwest Iowa: Family practice physician needed. Share call with two physicians in town. Office is adjacent to the hospital. Call sharing, business management systems taken care of. First-year guarantee with no buy-in. For more information, contact Pam Miller, Executive Director, Marian Medical Services, 801 Fifth Street, Sioux City, IA 51101; or call collect: 712/279-2237. 1-8/91

Wadena, Minnesota: Beautiful central Minnesota is home to the Wadena Medical Center, a five-physician group, and Tri-County Hospital. A scenic three-hour drive from Minneapolis. Family physicians to do obstetrics. Contact Dr. Matt Yelle, 218/631-1360, or Jim Lawson, Administrator, 218/631-3510. You'll not want to pass up this attractive place and offer. (8/91-R)

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Family Medicine Faculty: Ramsey Clinic, St. Paul-Ramsey Medical Center. An opportunity exists for a family physician to join our seven-member faculty in a strong, well-established, community-based family medicine residency program. The responsibility of this position is primarily clinical, with the opportunity to become involved in the ongoing supervision of 24 residents and other administrative duties. Candidates should be comfortable and competent doing general obstetrics, should be residency trained, and should be BC/BE in the specialty. Salary is competitive and benefits are excellent. Letters of interest and/or CV should be forwarded to: Loriese A. Stoll, Ramsey Clinic, 640 Jackson Street, St. Paul, MN 55101; or call 612/221-3067. Ramsey is an equal opportunity educator and employer and specifically invites and encourages applications from women and minorities. *2-9/91

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Woodward Avenue, Iron Mountain, MI 49801; 800/323-8856. 2-9/91

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Position Available: Physician assistant, full time, competitive salary and benefits, southwest Minnesota. Contact Susan Pemberton, Administrator, Wells Hospital, 400 Fourth Avenue SW, Wells, MN 56097; 507/553-3111. 1-8/91

Family Practice Physician wanted to join a 26-physician, multispecialty, primary-care clinic located across from North Memorial Medical Center, a progressive, modern, and independent hospital in Robbinsdale, Minnesota. Our medical group includes 12 family practice physicians. Top salary and benefits package. Three contemporary offices located within seven miles of each other. Positions available immediately and in June 1992. Please contact Tom Harrer, Administrator, North Clinic, 3366 Oakdale Avenue North, Robbinsdale, MN 55422; telephone: 612/588-4625. 3-10/91

Internal Medicine: Position open for general internist in unique outpatient clinic treating medically ill heavy drinkers. The Health Improvement Program and Alcohol Related Disorders Clinic at the Minneapolis VAMC comprise a demonstration project for developing innovative combined medicine/alcohol treatment approaches. Excellent opportunity for clinical research and teaching, as well as creative clinical approaches. Salary commensurate with education and experience. Contact Mark Willenbring, M.D., Chief, Special Addictions Section, VAMC, Minneapolis, MN 55417; 612/725-2000, Ext. 4008. The VA is an equal opportunity employer. *1-8/91

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BC/BE Family Practitioner wanted for Cannon Falls, Minnesota. Roomy one-year-old clinic attached to healthy 22-bed hospital. Wide range of in- and out-patient services provided. Cannon Falls is an economically diverse community of 3,200 people located on the Cannon River halfway between St. Paul and Rochester. Rural atmosphere within 45 minutes of airport. Cannon Falls has canoeing, bicycle trail, downhill and cross country skiing, and a lake all in the immediate area. Guaranteed salary for first two years with attractive benefits package. Contact: Bill Votel, M.D., at 800/592-2916 or 507/263-4390. 1-8/91

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Minnesota Medicine

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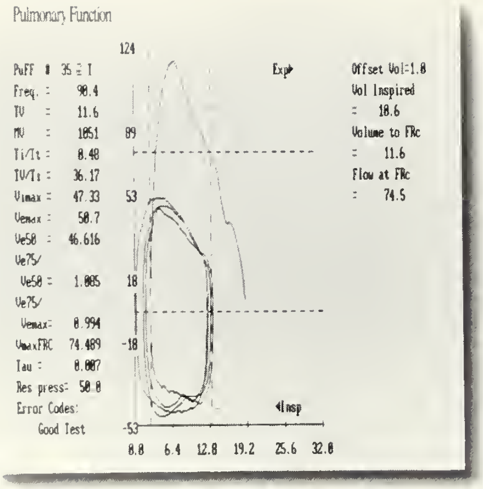
SEPTEMBER 1991



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VmaxFRC 74.489
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Children's Hospital
St. Paul

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Minnesota Medicine

A JOURNAL OF CLINICAL AND HEALTH AFFAIRS

SEPTEMBER 1991 VOLUME 74 NUMBER 9

COVER

"WELCOME, DOCTORS!" In calmer times earlier this summer, Duluth welcomed a group of Russian doctors for a tour of the city's medical facilities. The visit was organized by an exchange program between the sister cities of Duluth, Minnesota, and Petrozavodsk, Russia, that has strengthened the friendship between Soviets and Americans and has spurred a new understanding of each other's medical systems and ways of life.

On the cover, Soviet physicians visit Lake Superior while touring Duluth. Photo by Rob Levine of Minneapolis.

MINNESOTA MEDICINE

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MMA Annual Meeting

Schedule of Events

Wednesday, Sept. 18

10 a.m. to 6 p.m.
General registration

10:30 a.m. to 11:30 a.m.
PIC board meeting

11:30 a.m. to 12:30 p.m
MMSC board meeting & lunch

12 noon to 2 p.m.
Committee on Women Physicians lunch

12:30 p.m. to 3:30 p.m.
MMA Board of Trustees meeting & lunch

2 p.m. to 3:30 p.m.
MEDPAC annual meeting

2 p.m. to 3:30 p.m.
County Society Executives meeting

4 p.m. to 5 p.m.
Hospital Medical Staff Section caucus

4 p.m. to 5:30 p.m.
Minnesota Academy of Family Physicians caucus

5 p.m. to 6 p.m.
Forum on AMA affairs

6 p.m. to 9 p.m.
Welcome reception, outdoor barbeque, and entertainment by Gay Nineties Quartet

Thursday, Sept. 19

6 a.m. to 7:30 a.m.
Breakfast

6:45 a.m. to 5 p.m.
General registration

7 a.m. to 7:30 a.m.
Reference Committee orientation meeting

7 a.m. to 8:45 a.m.
Three simultaneous caucuses:
- Ramsey
- Hennepin
- Greater Minnesota

9 a.m. to 10:30 a.m.
MMA House of Delegates (Session I)

10:45 a.m. to 12:15 p.m.
Awards brunch

12:30 p.m. to 3 p.m.
Reference Committee open hearings

3 p.m. to completion
Reference Committee executive session

3 p.m.
Shot-gun golf tournament

6 p.m. to 7 p.m.
Pre-inaugural reception

7 p.m. to 12 midnight
President's Inaugural Dinner & Dance

Friday, Sept. 20

7 a.m. to 8:30 a.m.
Breakfast

7 a.m. to 8:30 a.m.
MMA Board of Trustees breakfast meeting

8:30 a.m. to 12 noon
General registration

8:30 a.m. to 10:15 a.m.
Two simultaneous caucuses:
- Ramsey & Hennepin
- Greater Minnesota

10:30 a.m. to 3 p.m.
MMA House of Delegates (Session II), includes lunch

3 p.m. to 3:30 p.m.
Board of Trustees organizational meeting

Dress is casual except for the President's Inaugural festivities, which will recognize Drs. Richard B. Tompkins and Thomas A. Stolee as they pass the Presidential Medallion. The event will begin at 6 p.m. Thursday with a pre-inaugural reception sponsored by Blue Cross and Blue Shield. The President's Inaugural Dinner & Dance will follow at 7 p.m.

Madden's on Gull Lake, September 18-20, 1991

Medicine Finds Itself on Solid Ground

Edmund C. Burke, M.D.

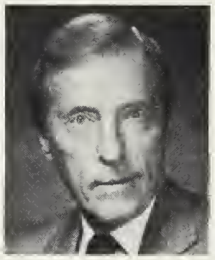
Has the medical profession fallen from its pedestal? Traditionally, it was considered one of the noblest of human ventures, standing alongside the clergy and teaching professions. But a pedestal is a precarious spot, and a tumble comes easily. I believe we have made the tumble.

Why? Medicine has toppled from its lofty position partly from physicians' own doing, but also because of forces beyond our control, such as the high cost of health care. Health insurance companies and the federal government have imposed regulations that overburden physicians. In fact, reimbursement for health care has become so regulated that I question whether our medical judgment is always brought to bear in the patient's best interest.

Yet, despite the obstacles, I believe there is much we can do to improve our profession.

Patients' loss of faith in the medical profession has led to litigious actions and malpractice fears. In part, this may be due to patients' unrealistic expectations of a perfect outcome. A loss of faith on the patient's part, as well as a lack of adequate discussion on the physician's part, are to blame.

To improve our image, we must resume our role as patient advocates—a role that, for some reason, has been lost in the sweep. As a first step, we should spend more time conversing with and listening to the patient. Medicine seems to have lost its humanitarian focus and taken on characteristics of big business. Profit, for example, has become more important in some circumstances than quality care. We must push for more humanitarian medicine.



"We can work in a noble fashion without standing on a pedestal."

We must also show the public that much of our work involves the giving of free medical care. We have too often been accused of looking after our own best interests. As Dr. Russell H. Larsen comments in a letter to the editor this month, we should document how much time physicians spend volunteering and use the information to counteract the bad publicity physicians often receive in the media.

We must educate patients about ways to keep costs down—emphasizing that improved lifestyle is a means of lowering health care costs. At the same time, we must promote health care coverage for the uninsured and the underinsured in our communities and urge our physician colleagues to join the effort.

In addition, we must improve our self-regulation by monitoring the practice of our peers. Group practice affords the opportunity to learn from one another and to scrutinize our own practice standards. We are morally and legally bound to report evidence of substance abuse, mental instability, and unprofessional conduct evident in our peers. Discipline in our ranks demonstrates our concern for our patients' welfare.

Among the many issues demanding our attention, AIDS remains prominent. That the public was thrown into hysteria when two Twin Cities physicians announced they have AIDS reflects the public's lack of knowledge about the disease and how it is contracted. Physicians are undoubtedly at greater risk of acquiring AIDS from patients than vice versa. Clearly, we must work to educate the public and calm its fears, no matter how irrational. We must remember that as physicians, we view the risk of acquiring AIDS from a scientific perspective, enabling us to understand the limited risk involved in patient-doctor contact. But we must learn to understand patients' perceptions of risk and then compassionately deal with their fears.

It is also important that physicians be part of larger societal discussions with ethicists, policymakers, lawyers, and others. A number of ethical issues have generated heavy and intense debate at virtually all medical meetings, as well as in the general media. Articles in the medical literature discussing euthanasia and assisted suicide indicate that the debate is troublesome to many. These and other ethical questions are fuzzy and, consequently, must be continually addressed.

Finally, we must not forget our efforts to make medicine an attractive career for our bright, young men and women. While we seem to be beleaguered with serious and multiple problems, medicine is nonetheless a wonderful and fulfilling career.

Will our profession ever stand on a pedestal again? In all honesty, I hope not. It is a precarious and dangerous place to be, and perhaps a place we never belonged. We can work in a noble fashion without standing on a pedestal. MM

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References:

1. A. Morales et al., New England Journal of Medicine: 1221. November 12, 1981.
2. Goodman, Gilman — The Pharmacological basis of Therapeutics 6th ed., p. 176-188. McMillan December Rev. 1/85.
3. Weekly Urological Clinical letter, 27:2, July 4, 1983.
4. A. Morales et al., The Journal of Urology 128: 45-47, 1982.

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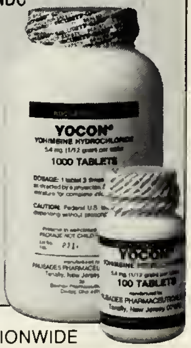

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Applauding Volunteerism . . .

As one who has volunteered in the past to teach anesthesia, I was pleased to see the article "Physician Volunteers Reap Rewards of Global Medicine" (page 12) and editorial "Where Are the Physician Volunteers?" (page 5) in the July issue of *Minnesota Medicine*. I have often wondered why organized medicine has never tried to document how much volunteer time is given by physicians. This information should be released to the media to counteract the bad publicity physicians often receive.

I belong to the Health Volunteers Overseas Anesthesia division that was begun by an anesthesiologist. His goal was not to do anesthesia but to help teach local health professionals and, thereby, improve the level of anesthesia care. It seems to me that to leave trained people behind when the volunteer has left is the ultimate goal. I would encourage physicians to give some time to these projects.

Russell H. Larsen, M.D.
Director, Operating Room
Anesthesia Services
Department of Anesthesiology
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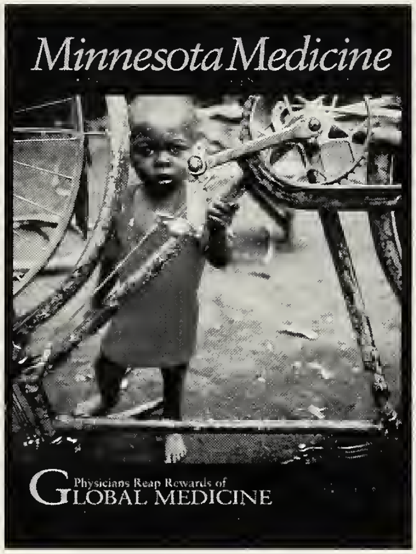
Medical School
Minneapolis, Minnesota



. . . And Its Benefits

I read the Editor's Notebook in the July 1991 issue of *Minnesota Medicine* ("Where Are the Physician Volunteers?" page 5). It is a very well-written article, and I am confident that it will inspire more than a few physicians.

I expect that they will become involved, will feel a sense of gratification, and will find the work of volunteering abroad rewarding, as have Drs. Paul Buhr, Arnold Anderson, and others described in that same issue.

They will find U.S. Medical Aid Foundation a good starting place. We would help to ensure that they have a very good experience working in a Third World country and that they come back feeling fulfilled by their international experience.

Let us keep working together to promote volunteerism, which can be as beneficial to the volunteer as to the recipients.

P.C. Mangalick
Founder-Chairman
U.S. Medical Aid Foundation
Minneapolis, Minnesota

The Etiology of Chronic Fatigue Syndrome

The article "Chronic Fatigue Syndrome in Minnesota" by Phillip K. Peterson and colleagues (*Minnesota Medicine*, May 1991, page 21) is troubling for several reasons but mainly because it does not identify mental illness as a possible primary factor in the etiology of the condition.

Other studies of CFS have ascribed psychiatric diagnoses to one-third to two-thirds of the patients evaluated. Nearly half the patients in the Peterson study had elevated scores on psychometric screening tests, yet after psychiatric evaluation, no DSM-III diagnosis could be applied to any of them.

Hypochondriasis is a DSM-III diagnosis. How can that condition satisfactorily be ruled out in a CFS population? The authors state that the abrupt onset of CFS symptoms following an infection-like episode speaks against the somatoform disorders, yet my experience as a pediatrician has taught me that acute illness is a common lead-in to school phobia.

In stating that a specific laboratory test and therapeutic modality (references in this latter context being made only to medication) for CFS are sorely needed, the authors underscore their conviction that CFS is a unitary condition with an organic etiology.

Perhaps it would be more fruitful for a substantial number of these patients to discard the medical model and substitute a functional approach. Have the authors enrolled their patients in a systematic, graduated exercise program? Such an approach could offer substantial diagnostic and therapeutic dividends. Improved endurance and diminished fatigue would rule out CFS and enhance well-being.

That such a paradigm shift in approaching CFS is worth the effort is evident from the one-year follow-up statistics on the patients Peterson describes: none had recovered. As much as anything else, is the diagnosis of CFS a self-fulfilling prophecy?

John F. Hick, M.D.
Pediatrician
St. Paul, Minnesota

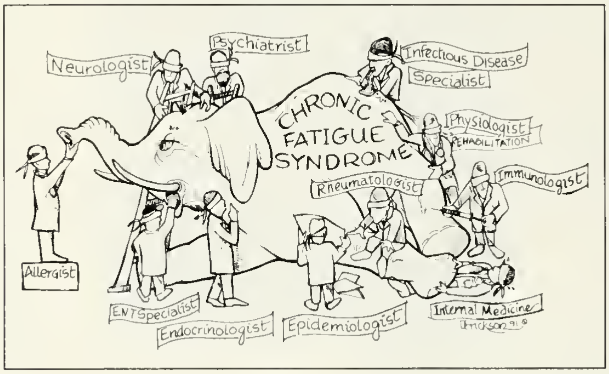
Continued

In Response

We agree with Dr. Hick that compared with several recent studies of patients with chronic fatigue, a substantially higher percentage of patients evaluated in our research program fulfilled the Centers for Disease Control case definition of chronic fatigue syndrome. Although the explanation of this apparent discrepancy is unknown, we suspect that two factors are involved.

First, our program is based in an internal medicine infectious diseases division, and we purposely tried to recruit patients who had CFS, most of whom were referred by physicians. All of our patients had to identify fatigue as their principal symptom, and fatigue had to be present for at least six months. Over 90 percent of our CFS patients reported an acute infectious disease-like episode at the onset of their illness. The chronic fatigue clinics in other centers generally have been established within primary care programs, and the principal symptom of patients at these centers is often unclear. In some studies, patients have had fatigue for less than six months, and the nature of the onset of illness has not been clearly defined.

Second, the methods we used to screen for primary psychiatric disease (three standardized psychometric tests) have not been used in other research programs, and the Diagnostic Inventory Schedule, which is generally used in these other programs, arguably may be a better instrument for detecting psychiatric diagnoses. However, in our study, elevations in psychometric scores were generally mild and consistent with an adjustment disorder rather than major depression. The level of fatigue was certainly far out of proportion to the level of any psychotherapy. For those who had elevated scores on any of the three standardized psychometric tests we used, results of an interview by the psychiatrist (CS) and the internist (PKP) investigators were in agreement regarding the absence of a primary psychiatric diagnosis as an explanation of the patient's present illness. The most common DSM-III diagnosis was, in fact, adjustment disorder triggered by the acute onset of a chronic illness associated with prominent functional consequences.



Regarding the diagnosis of somatoform disorders, patients with these conditions usually accrue symptoms over a lifetime of illness. This pattern was not seen in our CFS patients, whose symptom complexes began abruptly following an acute infectious disease-like illness in most cases. In fact, DSM-III-R explicitly states that somatization disorder, which is the somatoform disorder most closely resembling CFS, "is a chronic, polysymptomatic disorder that begins early in life," i.e., *before age 30* to satisfy diagnostic criteria. Although hypochondriasis cannot be definitively excluded in our CFS group, the fact that it affects males and females equally (according to DSM-III-R) is at variance with our data, as well as those from other studies, showing a preponderance of CFS in female patients.

To clarify our conviction: We believe the etiology and pathogenesis of CFS remain unknown, although many hypotheses are being pursued by different research groups (Figure). While it is our view that neither primary endogenous depression nor somatoform disorder satisfactorily explains this illness, this does not preclude psychiatric disorders as important risk factors in some patients. As neuroscience research has produced mounting evidence that biochemical, and in some cases molecular, abnormalities are involved in the mechanism of a number of primary psychiatric conditions, the distinction between *organic* and *psycho*pathology is becoming less clear.

We agree wholeheartedly with Dr. Hick that a very important goal of research in this field is rehabilitation. Graded exercise programs should be studied, as should a number of other treatment modalities that have been proposed, including psychoactive drugs. To date, there have not been any systematic reports indicating efficacy of antidepressant medications in CFS, which is notable in view of the purported link between depression and CFS suggested by previous studies. While none of the 62 patients polled in our study had completely recovered at one-year follow-up, 40 percent had improved. Our hope is that carefully controlled studies of one or more treatment approaches will show significant increases in this recovery rate.

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Looking Out for Minnesota Moms and Their Babies

Minnesota Medicine interviews Carolyn J. McKay, M.D., M.P.H.

Minnesota's infant death rate reached an all-time low in 1989, with 7.1 deaths per thousand live births. At that rate, we're tied with Maine for the third lowest infant mortality in the nation. But Minnesota can do much better, says Carolyn McKay, M.D., who early this month will be resigning as director of the Maternal and Child Health Division at the Minnesota Department of Health.

While Minnesota's infant mortality rate has improved over the years—dropping 30 percent from 1981 to 1989—it still lags behind some industrialized nations such as Sweden and Japan, where the rate was 5.2/1,000 in 1988. Dr. McKay believes Minnesota physicians can help lower infant mortality by preparing both men and women for the day they will start raising families. Preconception care, she says in this month's interview, is of utmost importance.

According to research from the University of Minnesota, the primary barrier to prenatal care is maternal ambivalence toward being pregnant. McKay believes, therefore, that the best way to combat infant mortality is to help women become committed to developing lifestyles that allow infants the optimal chance of being born healthy. Smoking and use of alcohol, for example, should be stopped before pregnancy begins.

Dr. McKay is also concerned about child immunization. Only 60 to 80 percent of children are immunized by age two, a rate the Health Department is working to improve. Another concern is the number of children killed or injured in accidents, especially by gunshot wounds and in automobile accidents, says Dr. McKay.

A clinical associate professor at the university's Department of Pediatrics and School of Public Health, Dr. McKay has also worked for children's health through the St. Paul Maternal Infant Care Project and the Pan American Health Organization. At the time of this interview, Dr. McKay had not announced her resignation from the Health Department, but she has since assured us that she is as committed as ever to bettering the health of mothers and infants in Minnesota.

Carolyn J. McKay, M.D.

"It is very clear that we still have too many preventable deaths."

Minnesota Medicine: Dr. McKay, let's start with your background. Where did you go to medical school, and where did you get your pediatric training? What led you to your current position?

McKay: I'm a Minnesotan, and I went to the University of Minnesota Medical School. I graduated at the time of the Watts riots and became very interested in inner cities and underserved populations. My training was in pediatrics; I was a pediatric resident at Cleveland Metropolitan General Hospital, and I was interested in some of the problems with preemies. Physicians in Denver were working with respirators at the time, so I went there for a year. This was the time when the term "battered child syndrome" came into common usage. The care and survival of preemies and the opportunity to recognize situations where children might be "battered" interested me. During my residency, I spent elective time in Nicaragua, going back three times to very poor, rural areas. I decided to go to Johns Hopkins to find answers to the overwhelming problems I'd seen. I didn't learn many solutions, but rather, I learned how to ask better questions, and I earned a master's degree in public health.

Minnesota Medicine: How did you become director of Maternal and Child Health at the Minnesota Department of Health?

McKay: I provided contract services over the years to Minnesota Department of Health programs, such as Early Periodic Screening Diagnosis and Treatment (EPSDT), Women, Infants and Children (WIC), and Services for Children with Handicaps (SCH). When the position was vacant, it seemed an opportunity to work on issues of importance to mothers and children—with broader scope than from a clinical practice. It has been worthwhile—financial barriers to pregnant women and children getting medical care have tumbled, insurance has improved for preventive care, prenatal care is changing in content, and injury is being vigorously addressed.

Continued

Improving Infant Mortality

Minnesota Medicine: Dr. McKay, the July 3 issue of *JAMA* includes an editorial by the University of Iowa's Herman A. Hein, M.D., who is currently director of the Iowa Statewide Perinatal Care Program. The editorial is entitled, "Do We Have the Infant Mortality Rate We Desire?" In a sense, he scolds as well as challenges the health care profession. He says the leadership our nation needs must come from health professionals on a local level. Do you think his criticism is appropriate?

McKay: I think it's extremely appropriate. I think physicians have potential influence they may not be using. At its June meeting, the AMA House of Delegates considered a resolution calling on the AMA to determine why the U.S. infant mortality rate isn't lower, so I know I'm not the only one concerned.

Minnesota's mortality rate is lower than other states', but I review all infant and child deaths in Minnesota, and it is very clear that we still have too many preventable deaths. The majority of infant deaths are due to premature birth. Until physicians are willing to look beyond medical risk factors and into other risks, such as smoking, drinking, substance abuse, and violence, we're not going to see more changes.

We have some natural experiments going on in this state. Many Southeast Asians are poor and socially isolated. They are reluctant to accept our form of medical care—especially prenatal care. However, they have full-term babies at the same rate as our better-off white population, and they have low rates of perinatal loss. This group of people traditionally doesn't drink, doesn't smoke, and rarely uses drugs.

> "We need to provide adolescents with acceptable risk-taking opportunities."

Minnesota Medicine: Can you explain why you call this an experiment?

McKay: It's what we call an experiment of nature—an observed phenomenon we can describe. Minnesota has had a significant Hmong population for about 10 years, and we now have more Southeast Asian births than we have American Indian births. In 1989 there were about 1,600 American Indian births and about 2,000 Southeast Asian births.

Minnesota Medicine: Do you think infant mortality in our state is mostly an urban or rural problem?

McKay: There's been a major shift. In the early '80s, the majority of Minnesota births were outside the metropolitan area. Now the majority of births are in the seven-county metropolitan area. Additionally, different parts of the population are affected differently. Minority populations, which are mostly urban, have disproportionate numbers of deaths. Black infant mortality is two and one-half to three times higher than white infant mortality. However, the black population in Minnesota is small, with about 60,000 white births compared with less than 3,000 black births, so the infant mortality problem in Minnesota is still largely among Caucasians, distributed across the state.

Minnesota Medicine: Do you think Minnesota physicians may have been a little remiss in the area of infant mortality?

McKay: Yes, because I think physicians believe prenatal care is something that obstetricians or family physicians do after a woman asks for a pregnancy test. Healthy reproduction should be discussed and addressed at annual physical exams for both men and women. Every time a physician prescribes an antibiotic or other medication, he or she should ask if the patient is planning to initiate a pregnancy. In meeting patients' general health needs, physicians must stop and ask, "OK, where are you in your life? What are your future plans? Do you plan to have more children, or, do you plan to have any children? Are you in appropriate health to start a family?"

Minnesota Medicine: Dr. McKay, you are president of the Minnesota Chapter of the American Academy of Pediatrics. I notice the *AAP News* ranks the 50 states in terms of how well they address children's problems. Minnesota ranks fourth. We can feel good about that—not that we should be complacent.

McKay: I expect Minnesota to be at the top, and I'm very disturbed when we start slipping. But being at the top is only relative. As long as there's preventable morbidity and mortality among our children, we are not where we should be. There's no reason for complacency at all. We need to educate our children about family life as they grow up, and this includes providing information about reproduction. In order to cut the percentage of premature babies, we must help young boys and girls start planning for the time when they'll be having children. We put tremendous emphasis on prenatal care, but by the time a woman goes in for prenatal care, she may be 16 or more weeks pregnant. By that time, the fetus's major systems have already formed. The fetus may already have heart disease or spina bifida. We have to help people be healthy before they initiate a pregnancy.

Minnesota Medicine: What should Minnesota's strategy be for approaching these problems?

McKay: Health professionals and physicians must be concerned about everyone capable of childbearing before a pregnancy begins. Preconception care is important. If you have diabetes, you practice very tight glucose control if you are planning on becoming pregnant. If you're 16, you don't become pregnant because 16-year-old children do not have very successful pregnancies—their offspring have more health problems. If you smoke, you stop before initiating the pregnancy. If you're under-weight or overweight, you solve the problem before the pregnancy.

Immunization Levels Raise Concern

Minnesota Medicine: Immunization is another cause for concern in Minnesota, especially with the measles epidemic a year ago. About half the cases involved Southeast Asians and Hmong in St. Paul. Did these people neglect to immunize their children? Is this partly a cultural problem?

McKay: I don't believe they have deliberately neglected to immunize their children, but they are culturally isolated and have different concepts about causes of disease. Massive efforts to immunize these children have been undertaken by the WIC program, clinics, and health departments. With a great deal of effort and an awful lot of caring, we can solve this problem.

Minnesota Medicine: How would you describe the overall immunization levels throughout Minnesota?

McKay: I'd like to say that they are excellent, but, unfortunately, that wouldn't be true. They vary from population to population, and we are keenly aware that many opportunities to immunize children are missed. By the time kids enter kindergarten in Minnesota, virtually all of them are immunized, with the exception of a few whose families belong to relatively small religious communities. By age two, when children should have completed immunizations, the statistics are not nearly as good—somewhere in the range of 60 to 80 percent.

Minnesota Medicine: That's not as good as we'd like.

McKay: No. All children should be completely immunized by age two. That's a very reachable goal. Physicians have to realize that when they see a child for a minor complaint, there's no reason not to update his or her immunizations.

Minnesota Medicine: It sounds like simple matter for a practitioner.

McKay: To make it simpler for everyone, the Health Department has developed an immunization card that will fit in a billfold. Parents will be asked for the card when their children start day care or when the parents apply for state benefits, for example. The parent should carry it almost like a passport or driver's license. At any kind of medical encounter, the card should be checked, and if the child has not had all proper immunizations, he or she should be updated.

Continued

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Services for Children with Handicaps

Minnesota Medicine: What can you you tell us about current plans for the Health Department's Services for Children with Handicaps?

McKay: The Services for Children with Handicaps (SCH) is by far the oldest service within the Health Department. Fifty years ago, it was clear that many children had special health care needs. At a time when general practice was the only resource for many families, travel was difficult, and money was short, the state established a program that periodically sent specialists to clinics, especially in smaller towns. Currently, the emphasis tends to be on Mankato, Marshall, Fergus Falls, Bemidji, Duluth, and St. Cloud, although there are clinics at other sites. At these clinics, parents and their children can meet with a skilled pediatrician, nutritionist, hearing and speech therapist, orthopedist, and rehab physician. Cardiology was added in the early '50s, when it became possible to diagnose *and* repair cardiac problems.

We have handicapped kids around the state with learning problems. Schools can do some diagnosis and physicians can do some, but many of these kids defy an easy solution. With pooled curriculum specialists, neurologists, psychologists, and other people working together, SCH clinics create the best possible plan for these children, their families, and their schools.

Facial/dental clinics also have a long history in the state. Children with facial clefts, cleft lip, and cleft palate also tend to have trouble with hearing and speech. They frequently face multiple surgeries and orthodontic problems. SCH clinics bring specialists together with the family to establish care plans for these children.

Injury Prevention

Minnesota Medicine: Before we close, Dr. McKay, would you like to mention anything else?

McKay: I'd like to mention a significant problem that physicians can help to address: many children, and many adults, are either killed or injured because of accidents. The epidemiology of injuries is very much like malaria or cholera, and we can do much to prevent them. More adolescent children are dying of gunshot wounds than are dying of leukemia. Physicians need to ask parents whether they have a gun in the house, where they store it, and what access the children have to it. Adolescent injuries in automobile accidents are also common. Drinking and driving is an area that demands our attention.

Minnesota Medicine: Adolescent risk-taking is a concern.

McKay: We need to provide adolescents with *acceptable* risk-taking opportunities. Many kids cannot get out of the city. We have to create opportunities for adolescents to be the best they can be, through sports, for example. Young people have a tremendous range of skills, and they must be challenged; otherwise, they sometimes find dangerous ways to create thrills. MM

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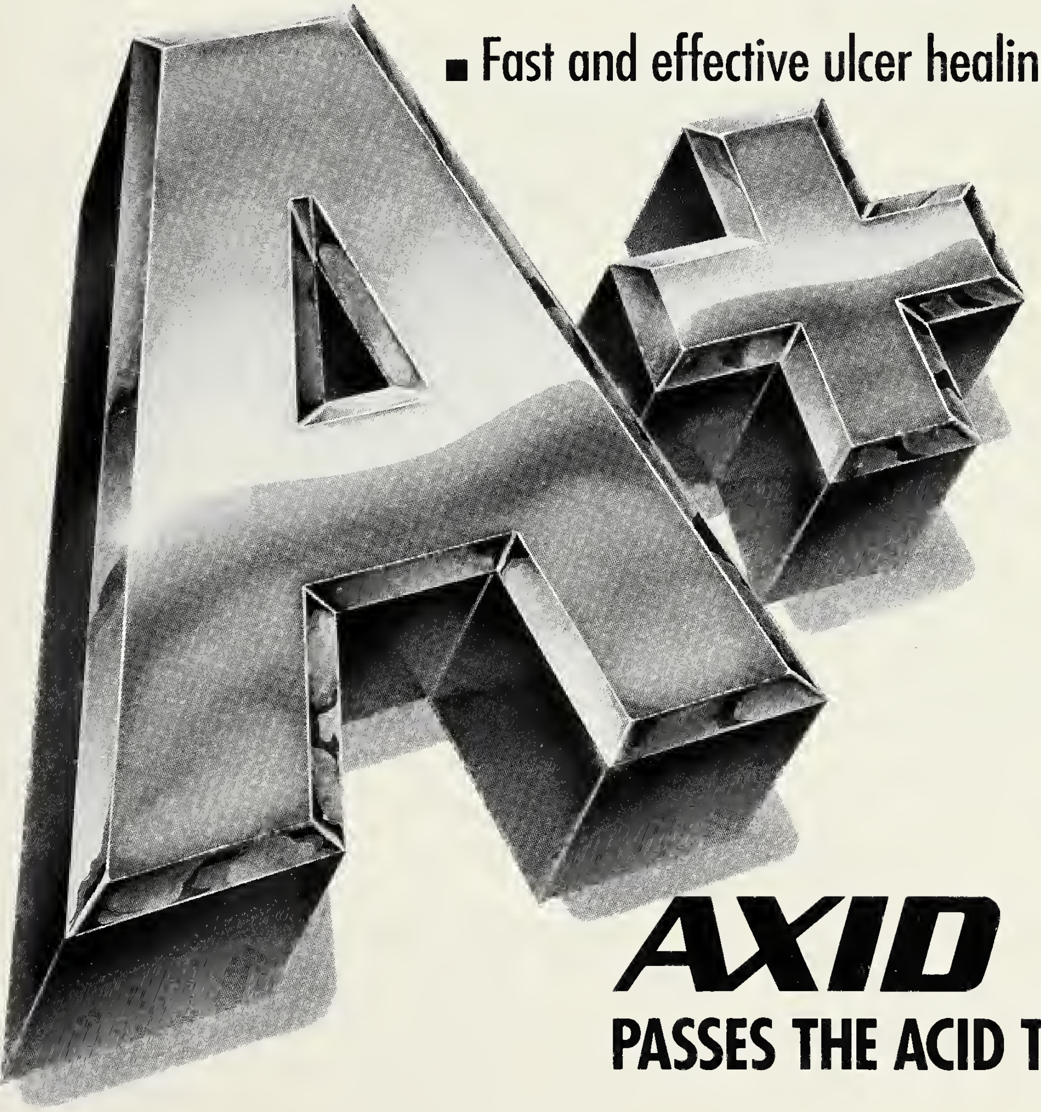

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Carcinogenesis, Mutagenesis, Impairment of Fertility—A 2-year oral carcinogenicity study in rats with doses as high as 500 mg/kg/day (about 80 times the recommended daily therapeutic dose) showed no evidence of a carcinogenic effect. There was a dose-related increase in the density of enterochromaffin-like (ECL) cells in the gastric oxyntic mucosa In a 2-year study in mice, there was no evidence of a carcinogenic effect in male mice, although hyperplastic nodules of the liver were increased in the high-dose males as compared with placebo Female mice given the high dose of Axid (2,000 mg/kg/day, about 330 times the human dose) showed marginally statistically significant increases in hepatic carcinoma and hepatic nodular hyperplasia with no numerical increase seen in any of the other dose groups. The rate of hepatic carcinoma in the high-dose animals was within the historical control limits seen for the strain of mice used The female mice were given a dose larger than the maximum tolerated dose, as indicated by excessive (30%) weight decrement as compared with concurrent controls and evidence of mild liver injury (transaminase elevations). The occurrence of a marginal finding at high dose only in animals given an excessive and somewhat hepatotoxic dose, with no evidence of a carcinogenic effect in rats, male mice, and female mice (given up to 360 mg/kg/day, about 60 times the human dose), and a negative mutagenicity battery are not considered evidence of a carcinogenic potential for Axid.

Axid was not mutagenic in a battery of tests performed to evaluate its potential genetic toxicity, including bacterial mutation tests, unscheduled DNA synthesis, sister chromatid exchange, mouse lymphoma assay, chromosome aberration tests, and a micronucleus test.

In a 2-generation, perinatal and postnatal fertility study in rats, doses of nizatidine up to 650 mg/kg/day produced no adverse effects on the reproductive performance of parental animals or their progeny

Pregnancy—Teratogenic Effects—Pregnancy Category C—Oral reproduction studies in rats at doses up to 300 times the human dose and in Dutch Belted rabbits at doses up to 55 times the human dose revealed no evidence of impaired fertility or teratogenic effect, but, at a dose equivalent to 300 times the human dose, treated rabbits had abortions, decreased number of live fetuses, and depressed fetal weights. On intravenous administration to pregnant New Zealand White rabbits, nizatidine at 20 mg/kg produced cardiac enlargement, coarctation of the aortic arch, and cutaneous edema in 1 fetus, and at 50 mg/kg, it produced ventricular anomaly, distended abdomen, spina bifida, hydrocephaly, and enlarged heart in 1 fetus. There are, however, no adequate and well-controlled studies in pregnant women. It is also not known whether nizatidine can cause fetal harm when administered to a pregnant woman or can affect reproduction capacity Nizatidine should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers—Studies in lactating women have shown that 0.1% of an oral dose is secreted in human milk in proportion to plasma concentrations. Because of growth depression in pups reared by treated lactating rats, a decision should be made whether to discontinue nursing or the drug, taking into account the importance of the drug to the mother

Pediatric Use—Safety and effectiveness in children have not been established.

Use in Elderly Patients—Healing rates in elderly patients were similar to those in younger age groups as were the rates of adverse events and laboratory test abnormalities Age alone may not be an important factor in the disposition of nizatidine Elderly patients may have reduced renal function.

Adverse Reactions: Clinical trials of varying durations included almost 5,000 patients. Among the more common adverse events in domestic placebo-controlled trials of over 1,900 nizatidine patients and over 1,300 on placebo, sweating (1% vs 0.2%), urticaria (0.5% vs <0.01%), and somnolence (2.4% vs 1.3%) were significantly more common with nizatidine. It was not possible to determine whether a variety of less common events were due to the drug.

Hepatic—Hepatocellular injury (elevated liver enzyme tests or alkaline phosphatase) possibly or probably related to nizatidine occurred in some patients. In some cases, there was marked elevation (>500 IU/L) in SGOT or SGPT and, in a single instance, SGPT was >2,000 IU/L. The incidence of elevated liver enzymes overall and elevations of up to 3 times the upper limit of normal, however, did not significantly differ from that in placebo patients All abnormalities were reversible after discontinuation of Axid. Since market introduction, hepatitis and jaundice have been reported. Rare cases of cholestatic or mixed hepatocellular and cholestatic injury with jaundice have been reported with reversal of the abnormalities after discontinuation of Axid

Cardiovascular—In clinical pharmacology studies, short episodes of asymptomatic ventricular tachycardia occurred in 2 individuals administered Axid and in 3 untreated subjects.

CNS—Rare cases of reversible mental confusion have been reported

Endocrine—Clinical pharmacology studies and controlled clinical trials showed no evidence of antiandrogenic activity due to nizatidine Impotence and decreased libido were reported with equal frequency by patients on nizatidine and those on placebo Gynecomastia has been reported rarely

Hematologic—Fatal thrombocytopenia was reported in a patient treated with nizatidine and another H_2-receptor antagonist. This patient had previously experienced thrombocytopenia while taking other drugs Rare cases of thrombocytopenic purpura have been reported

Integumental—Sweating and urticaria were reported significantly more frequently in nizatidine- than in placebo-treated patients. Rash and exfoliative dermatitis were also reported

Hypersensitivity—As with other H_2-receptor antagonists, rare cases of anaphylaxis following nizatidine administration have been reported Rare episodes of hypersensitivity reactions (eg, bronchospasm, laryngeal edema, rash, and eosinophilia) have been reported.

Other—Hyperuricemia unassociated with gout or nephrolithiasis was reported Eosinophilia, fever, and nausea related to nizatidine have been reported

Overdosage: Overdoses of Axid have been reported rarely If overdosage occurs, activated charcoal, emesis, or lavage should be considered along with clinical monitoring and supportive therapy Renal dialysis does not substantially increase clearance of nizatidine due to its large volume of distribution.

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A Good Surgical H and P

M&M's and All

S. Horatio Slawson, M.D.

My third year of medical school was not an ego-building experience. Everyone except the patient knew that I had just spent two years with only textbooks. At rounds that first day, I met Dr. Alfred W. Williams, Dave Howell, and the other physicians on Dr. Williams' team. For one hour we went from room to room visiting patients at all positions in the surgical timeline.

RICK PETERSON

Dr. Williams followed a pattern: He began at the foot of the bed, looking at the patient full face. "How are you feeling today, Mrs. Steele?" he would ask, emphasizing "feeling" and "today." Then he moved to the right side and touched a hand, shoulder, or elbow. At that point, he improvised, depending upon the case.

Later that afternoon, Dave Howell handed me a two-page form entitled "Surgical H and P."

"Mr. Henry Taft is our first case tomorrow. You, my friend, will do his H and P tonight. Remember: *surgical* H and P. None of this drafty stuff about the number of bowel movements he had as a child. Chief complaint, HPI, surgical history, main medical problems. Should take you 10 to 15 minutes max."

I nodded. Dr. Williams had a reputation: One of the brightest students in our class, an earnest young woman who was interested in psychiatry, had received back from the surgeon a lengthy H and P she had written. He had attached a note that said, "Please rethink your approach to this H and P. I plan a tonsillectomy tomorrow, not an operation on this gentleman's hypothalamus or a procedure to cure his anal retentiveness."

I strolled into the room and sat down in the chair across from Mr. Taft. I looked directly at him, trying hard not to let my eyes stray from his and down to the brown seeping growth at the juncture of his right eye and bridge of his nose. I introduced myself. He smiled and gave me the firmest handshake I had ever experienced.

He said he had first noticed the growth about a year before, but it was small. At times it would produce blood. Then it began to push up on his eyeball. At night he had difficulty sleeping because his eyelid would not completely cover the displaced globe. His wife had urged him to come to the hospital.

"They did some test and sent me up here," he said. He glanced at his wife, who was doing cross-stitch in a corner of the room. She looked up and smiled. "I guess it might be cancer," he said.

I plunged into the physical exam, bringing out the new stainless steel implements with which I had practiced so diligently. Finally, I examined the growth. It was brownish red and irregularly shaped with thick tendrils that burrowed underneath the skin at the bridge of the nose, down to the cartilage of the nose, and up along the soft tissues bordering the inner aspect of the eye. A voice kept whispering in my brain, "malignancy, malignancy, malignancy."

I explained to him briefly about the anesthesia and the surgery that was planned for tomorrow morning.

"Will you be there?" he asked.

"Well, Dr. Williams and Dr. Howell will perform the surgery, and I will be there to observe," I said.

"Dr. Williams said this afternoon that if the growth has gone deeper that he may have to do more surgery," he said.

"That is true."

"What will I look like?"

"Exactly what did Dr. Williams say he had planned?"

"He may have to take my eye," he replied. We both sat in silence for a moment.

"I have a granddaughter, you know."

I nodded.

"Since you will be there, there is one thing you could do: If you can, have them leave as much of my face as is safe. She will be scared of me if you don't." He glanced over at his wife and added, "I know it sounds silly, but I always put a bag of M&M's in my pocket so that when my granddaughter, Laura, visits, she reaches in my shirt pocket and pretends like, 'Surprise!,' she has found some candy that no one knew was there.

Continued

"If half my face is gone she won't come to see me."

I said I would pass along his request.

Out at the chart desk I began writing my H and P. I was straightforward until I came to including his fears. I couldn't leave those out. I knew I should, but I couldn't. I put in a very cryptic reference to his granddaughter and M&M's and his fear of the surgical procedure preventing his assimilation back into his family. Guiltily, I placed it near the bottom of the stack of papers in his chart.

The next day, I watched from the corner of the surgical suite while the anesthesiologist prepared Mr. Taft for surgery. Just before the administration of the anesthesia and intubation, he winked at me. I felt like a traitor. I hadn't mentioned a word to Dr. Williams or to Dave. Neither one of them had mentioned my H and P.

The initial biopsy from Mr. Taft's lesion came back squamous cell carcinoma. As the surgery began, it was obvious that the cancer had spread into the lateral edge of the ethmoid bones, the maxilla, and into the orbit. Dr. Williams decided to perform a radical excision involving the removal of the lower orbital rim, the orbit, half of the nose, part of the maxilla, and all of the surrounding soft tissues.

At the end of the surgery, some five hours later, there was a large softball-sized cavern in the right side of Mr. Taft's face.

He recovered uneventfully. By the second day he was asking that the bandages be removed so he could see what all the fuss was about.

"No, no, no," said Dr. Williams. "Let's just wait until we are sure that his healing has steadied."

Three days later the big day had arrived and we all trooped into the room. Slowly, Dr. Williams removed the dressings and bandages. Mr. Taft sat in front of the mirror staring with his one good eye at the sterile hole in the right side of his face. His wife sat in the corner, her jaw slack and her mouth open. She held her needlework so tightly that her knuckles were white.

"As we talked about before surgery, Mr. Taft, sometimes radical surgery is necessary to give you a chance for survival," Dr. Williams explained.

Mr. Taft didn't reply.

"In a few months we will be able to fit you with a prosthesis."

"Thank you, Dr. Williams," said Mr. Taft. The empty cavern made his voice vibrate as if in an echo chamber.

During the next few days, preparations were made for Mr. Taft to return to his small town in the Appalachian hills. Finally, the day of discharge arrived. It was afternoon rounds and, as usual, Dr. Williams was wearing his starched white lab coat. We stopped outside Mr. Taft's room.

Without any notes, I gave a short summary of Mr. Taft's presentation, surgery, and postop course along with that morning's vital signs. I mentioned the date of his follow-up appointment and the fact that his family had driven up to take him and his wife home. Dr. Williams nodded in silence.

When we went into the room, Dr. Williams stood at the foot of the bed. He began chatting with Mr. Taft about southern Virginia, the Chesapeake, and the taste of soft-shelled crabs spiced with garlic salt. Then, it was time to say goodbye, and Dr. Williams, Dave, and I shook hands with Mr. Taft and his wife and began our exit.

I was nearly out of the room when I heard it—the crackling sound of wrapper being crunched. I turned and saw Dr. Williams bending over the bed and placing a small brown and yellow bag of M&M's in Mr. Taft's left shirt pocket. The patient smiled quickly at his wife and tried to grab Dr. Williams' long, thin fingers for a handshake, but the surgeon's hands already had retreated to his coat pockets. He strode quickly past me and down the hallway.

I stared at Dave in silent wonder. He was grinning.

"Doctor W. says it was a good H and P. Too long, though. All in all, my friend, a good surgical H and P." MM

S. Horatio Slawson is a resident in the Department of Diagnostic Radiology, Mayo Clinic, Rochester, Minnesota.

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COVER STORY

THE DULUTH-PETROZAVODSK CONNECTION

Doctors Exchange Knowledge, Culture

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By Joseph Moriarity

After seven months of long-distance phone calls and telegrams, interminable waits for letters to cross the Atlantic, and last-minute airline reservation changes, Byron Crouse, M.D., co-chair of the Duluth-Petrozavodsk Medical Exchange Committee, received the phone call he'd been waiting for. A delegation of four Soviet physicians and their translator had finally jumped the remaining bureaucratic hurdles in Russia and would arrive for a two-week visit in Duluth—in two days!

Scrambling to complete the last-minute arrangements, Crouse exclaimed, "It's been a real challenge to put together this visit. The communications and planning problems in Russia are still simply wild."

He spoke from personal experience. Last November, Duluth physicians Thomas Elliott, Jerome Kwako, Carl Heltne, and Crouse traveled to Petrozavodsk for a similar visit, also under the auspices of the exchange committee.

Their reasons for participating varied. A shared interest in international issues and Third World support was one factor, explained Crouse, who came to Duluth in 1986 to assume his current position as assistant director of the Duluth Family Practice Residency program.

Additionally, the U.S.S.R. was opening up, and through the Duluth-Petrozavodsk sister city relationship, successful exchanges had already been taking place in other fields for two years, said Crouse. "We recognized this as an opportunity for the medical community to share ideas, resources, and scientific knowledge, to establish friendships and deepen the link between citizens of our two

PHOTOS BY ROB LEVINE

As part of their tour of Duluth medical facilities, the Soviet doctors walked across a new skyway that connects two different parts of The Duluth Clinic and Miller-Dwan Hospital.

countries, and to do our part for world peace. All of us were deeply moved, challenged, and changed by our experience in the U.S.S.R. Before we had even left the Soviet Union, we were beginning arrangements to bring these physicians here to Duluth."

Those physicians, Juri Silvestrov, Nikolai Shevtsov, Oleg Savtchuk, and Inessa Mebelova, with Russian translator Marina Posnova, arrived in Duluth June 11 for a 16-day whirlwind of professional, cultural, social, and recreational activities that left the five a bit overwhelmed but very enthusiastic about their experience. "Often- times, we were talking to people, doing whatever, and it all seemed very natural," said Posnova, who teaches English language and medical terminology to medical professionals and students in Petrozavodsk. "Then suddenly we'd stop and think, 'Can you *believe* it? We're in the *United States!*' It's just so incredible that we are here! It seems like something out of a dream."

That dream became reality through the work of the Duluth-Petrozavodsk Medical Exchange Committee, which was founded two years ago after an unofficial visit by Drs. William Himango and William Portilla (the committee's other chair) to Petrozavodsk, a city of 400,000 lying near the Finnish border, about eight hours northwest of Leningrad by train.

The Duluth physicians returned eager to start a medical exchange program, explained Elliott, director of Medical Education and Research at The Duluth Clinic and the exchange committee's first chair. "Through the St. Louis County Medical Society, we founded the committee to strengthen bonds of friendship with our Russian counterparts and to cooperate in the areas of medical education, research, and medical practice."

The first committee-sponsored exchange in June 1990 brought one Russian medical school faculty member and three students to Duluth—the first Soviet medical students to formally visit a U.S. medical school, according to Elliott, who, in addition to his administrative duties, is a practicing hematologist-oncologist.

Before traveling to Russia, Elliott's group talked extensively to the Russians who had been to Minnesota and with others from Duluth who had preceded them to Petrozavodsk. They thought they knew what to expect. "But I was still taken aback when I actually got there and saw how little the people actually have and how hard and frustrating daily life is," recalled Elliott. "The overwhelming abundance present in our society in general, and in our medical system in particular, stands in sharp contrast to the Russians' medical facilities and system."

Life as a physician in today's Russia means an ongoing struggle to overcome both bureaucratic bungling and inertia as well as shortages of even the most basic supplies and equipment. "Even feeding one's family is a problem," Elliott said. "All the doctors we met in Petrozavodsk had garden plots outside the city. Without those vegetables, they told us, having enough to eat in the winter would be difficult."

Yet, in some respects, the situation was not quite as bad as the Duluth doctors had expected. "We'd heard that the state of medical care in the Soviet Union was *really* impoverished. But compared to the conditions I saw while volunteering in Haiti five years ago, Russia is not so bad," said Crouse.

They have the bricks and mortar, he said, but across the board, most hospitals just don't have some of the basic resources, not even aspirin or penicillin, diagnostic testing equipment, or therapeutic resources. In addition, he said, they often run short of supplies like syringes, IV fluids, otoscopes, and bladder catheters. Petrozavodsk, a regional medical center, just got its first heart-lung machine, and there's only one dialysis unit in the city, compared with 27 in Duluth, said Crouse.

What the Russian doctors lack in resources, they make up for, at least in part, with ingenuity, dedication, and crucially important "backdoor" connections. "Many pieces of equipment I work with were designed and built by friends in factories or by my father," explains Silvestrov, a thoracic surgeon in his mid-40s who works in one of the region's key facilities, a heavily used 1,000-bed hospital. "There is no other way to get what we need. We're experts in making the most of what we have."

In fact, on one of their last days in Duluth, Silvestrov and Savtchuk were on a shopping spree—not for clothing and souvenirs, but for supplies unavailable at home. Among other items, they were buying yards and yards of rubber tubing.

In addition to these problems, the Soviet medical system as a whole suffers from extreme fragmentation of care. Medical care for a bladder problem and high blood pressure would require separate specialists, explained Crouse, and the specialists would likely work at different clinics. Such fragmentation is due in part to equipment and supply shortages. "It's not that they can't get organized," Crouse continued. "It's that they simply don't have the resources to fully equip every hospital."

A nurse at Miller-Dwan's burn center explained procedures to the Soviet doctors.

Having seen what the Russians do with what they have, Crouse said he couldn't help but look at our system and feel that we have become a bit lackadaisical and complacent. "How much we take for granted with all our resources and facilities!"

Crouse said he was also impressed with the study ethic of those he met. Many physicians spend 15 or 20 hours a week on their own in the evenings reading Soviet and foreign journals and studying English. Shevtsov, for example, was originally trained as a urologist. During 20-plus years of practicing medicine, said Crouse, he's also developed skills in gastroenterology and radiology.

"Though the doctors we met were aware of the latest equipment and techniques, they unfortunately have little opportunity to use them," said Crouse. "Dr. Shevtsov knew all about lithotripsy, for example, but he had never been able to see or carry out the procedure until he came here. If we were to put this kind of time into self-development, where would we be?"

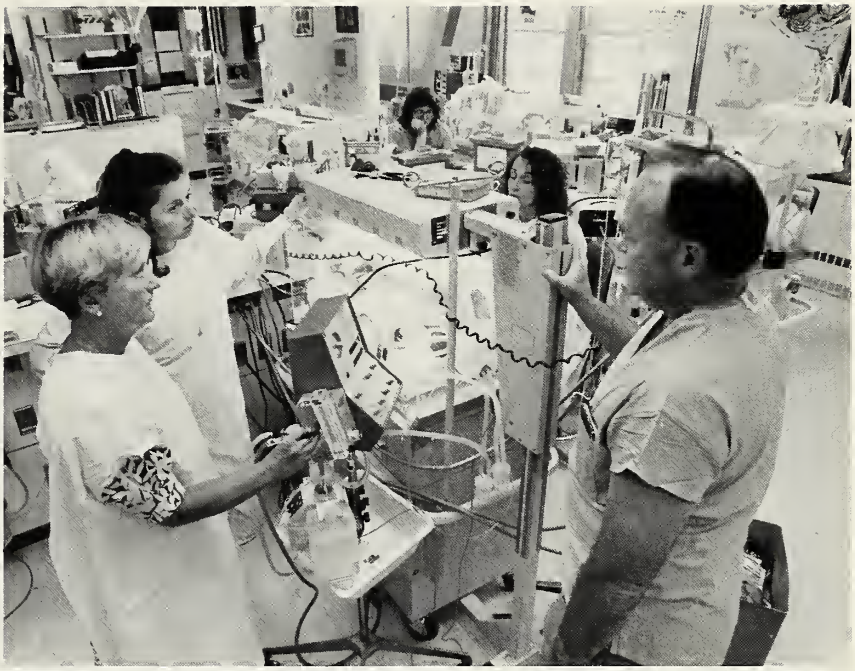
The Russians' 16 days in Duluth paralleled those of the Americans in Russia: busy and opportunity-filled. The Russians went on rounds at Miller-Dwan, St. Mary's, and St. Luke's hospitals, toured clinics, sat in on patient visits and consultations, observed surgeries, visited small-town medical facilities, and met with hospital and clinic directors. Mebelova, a neonatologist specializing in premature births, and Savtchuk, a pediatric surgeon and chief of pediatrics in a large hospital, also spent time at Minneapolis Children's Medical Center and Gillette Children's Hospital in St. Paul.

There were myriad questions—about surgical techniques, care for burn patients, pain medication management, out-patient surgery, mechanical ventilation for newborns, work hours, ethical issues, treatment for specific diseases, chemical dependency treatment, insurance systems, clinic management, record computerization, patient loads, and more.

Given the dramatic shortages of equipment and supplies in Russia, the Soviet visitors were predictably overwhelmed by what they found on their visit to Duluth and the Twin Cities.

"Duluth is not even a major medical center, yet everything you need is immediately at your fingertips. The latest technology, supplies, everything. Even the smaller hospital and clinic we saw in Two Harbors is well-prepared. For us, such a thing is unimaginable," said Shevtsov.

Crouse anticipated this reaction, and it left him with contradictory feelings. "In Petrozavodsk, they were always asking us, ‘How do we compare?’ We tried to be very supportive because they do so well given their constraints.”



Soviet neonatologist Inessa Mebelova visited with Duluth neonatologist Roderick Krueger at St. Mary’s Hospital in Duluth.

Crouse said he was excited and proud to show the Soviets his work places and city, but he sometimes felt a little embarrassed. “Certainly we didn’t deliberately flaunt our wealth—but, in a sense, we do so inadvertently by the nonchalance with which we accept what we have.” The Soviets were dumbfounded by the abundance everywhere, said Crouse—from the food at restaurants, to the mountains of produce in our grocery stores and the many choices of clothing at Target.

The Soviet physicians were also impressed with U.S. medical technology—much of which is not available to them—but it wasn’t their primary concern. “We can’t solve this problem now anyway,” said Mebelova, echoing the delegation’s sentiments. “But there are other areas to look at in which change is possible,” she continued. Patients here have much shorter hospital stays than ours, for instance. And I loved how parents are allowed—no, *encouraged*—to be with their new babies as much as they want. Even in the neonatal intensive care unit, many newborns wore bows and pretty clothes, and the unit was nicely decorated. The hospital is not like a prison anymore. These are all good ideas that will be easier to introduce at home.”

> “The abundance present in our society and in our medical system stands in sharp contrast to the Russians’ medical facilities.”
>
> *–Thomas Elliott, M.D.*

Staffing and efficiency levels were areas of particular interest, too. “In Russia, only doctors assist with surgery,” explained Silvestrov. “But here, your nurses and technical staff are well-trained and highly skilled. They play a very important role not only in surgery but in other areas of care, too. We are very impressed by the efficiency of your system,” he said. “You are able to treat many patients with a very high level of care. Each patient is seen individually, in a private room, and generally given the necessary time.”

One of the Soviets’ biggest surprises was how honest American physicians are with their patients, said Elliott. “Russian physicians generally don’t inform patients of life-threatening illnesses. They don’t use the word cancer. They aren’t allowed to. Their practices in this area resemble ours of 50 years ago. When they saw the straightforward, yet sensitive, discussions we have with patients, they were very impressed and moved. They immediately recognized the need for change.”

Listing some of the changes they’d like to see in their system—decentralization, partial privatization, an increased role for nurses and paramedical staff, patients’ right to choose their doctors, introduction of family practice medicine, more openness and honesty with patients—Silvestrov admitted the challenge is daunting. But when asked if he was encouraged about the future, he replied, “We must have hope. Without it, we’re alive in the body, but dead mentally and spiritually.”

Silvestrov said Soviets are finally gaining more local autonomy. “Medical problems are now spoken about in the mass media. In the past, we never heard any negative news. Training programs are improving, too. And we’re getting more money from the Ministry of Health, with the authority to decide how it will be spent. Overall, Perestroika’s effect is small for us as doctors, but positive.”

The Russian delegation’s impressions and comments as their visit drew to a close brought out similar reflections among the Americans who had visited Petrozavodsk. “While we didn’t expect to learn too much about new techniques or equipment in Russia, the program is by no means a one-way street,” said Crouse. “Learning about their system gave us a better vantage point from which to examine and improve our system.”

While recognizing and admiring strengths in the American system, the Russians noticed weaknesses as well. One of Shevtsov’s first observations concerned the United States’ inadequate provision of medical care for those who can't afford health insurance. "We wonder how this can be the case when your country is so rich," he said.

Crouse concurred, questioning whether the United States uses its tremendous wealth and resources wisely. "We keep patients with little or no brain function alive for months or even years at enormous expense, while countless children are needlessly ill or dying of easily preventable illness simply for want of immunizations, adequate prenatal care, or basic medical care."

Shevtsov and Mebelova described an extensive nationwide screening and immunization program that has existed in Russia for about 10 years. Teams of physicians visit schools and villages regularly to examine children for a variety of illnesses and potential problems, and free gynecological screenings are available to many women through their work places.

"Our goal," explained Mebelova, "is to discover problems as early as possible, when they are easier and less expensive to treat. It seems your system doesn't encourage such preventive care as much as it could. Perhaps you could save some money this way, too."

In a sense, the two countries' systems face opposite problems, said Kwako, who has practiced pediatrics in Duluth for 23 years. "In Russia, everyone has access to medical care, but the system has inadequate resources and capacity. We, on the other hand, have excess capacity, but inadequate accessibility—too many people can't use the resources we have because of lack of money or insurance."

In response, Shevtsov suggested, "Just as we need a little more capitalism in our system, perhaps you need to incorporate some socialist ideas in your system. Both of our countries must build and shape our health care to serve the needs of the people, not the needs of the state or the current system."

Soviet thoracic surgeon Juri Silvestrov had a cigarette while taking a break from touring Miller-Dwan Hospital in Duluth.

Perhaps by learning more about each other, the exchange participants seemed to say, both groups could find ways to balance their respective systems' extremes for everyone's benefit—and avoid a few mistakes along the way. The Russians are considering implementing some form of private health insurance, for example.

"We could certainly tell them a lot about how insurance systems work and point out a few things they'd do very well to avoid," said Crouse. "Conversely, they are experts on nationalized medicine. Given the movement in this direction in the United States, they had some advice for us: don't become so centralized that Washington gets in the way of local initiative, preventing local solutions to unique local problems."

Yet, as he saw the Russians trying to find ways to make their system more business-like, Crouse says he realized more than ever how much our system has adopted a business focus, which he's not sure is good for quality of care.

"We find ourselves devoting more and more time to business management issues, and that's time that could be spent some other way—on research, on study, with patients, or with one's family. Maybe we've moved too far in this direction," he said.

At a meeting two nights before the Soviets' return home, the exchange committee met with the Soviet physicians to discuss the future of the program. The group identified two major objectives: to bring together doctors of certain specialties from the two cities, and to share information about particular topics. For example, the Petrozavodsk physicians want to develop family practice as a speciality, explained Elliott. "Dr. Crouse, as a leader in family practice here, would be an ideal candidate to help them design a training program," he said. "They also want a medical ethicist to come to offer seminars on openness with patients and the ethics and philosophy behind this practice."

In addition to physician exchanges, medical student and faculty visits will continue. In early July, five UMD medical students went to Petrozavodsk, and in August, their counterparts came to Duluth. The exchange committee plans to send physicians to Petrozavodsk next spring, with another visit by Soviet physicians the following fall or spring. There has also been talk of an American hospital administrator going to Petrozavodsk.

Though financing travel costs is a problem for the Russians, their creativity and entrepreneurial abilities are overcoming this challenge, too. "They discovered that many well-off businessmen badly want to come to the United States to make connections," Kwako explained, "but they need an invitation to do so. So our physician friends will make a deal: they'll allow the businessmen to travel with them—essentially providing the invitation—if the businessmen foot the bill for the doctors' airline tickets!"

All involved agreed that the exchange program's benefits extend beyond medicine, and they recognized that some of their stereotypes did not fit reality. "While they were certainly interested in medical issues, our

Russian colleagues wanted just as much to confirm or dispel images they had about America," said Elliott. "They thought crime was rampant everywhere in the United States, but discovered that while some parts of some cities are dangerous, generally, this is a safe and wonderful country." They also had a "Disneyland" image of the U.S.—believing everyone lives in a palace and has about 10 cars, he said. "They found that while the average American lives much better than the average Russian, we're by no means all fabulously wealthy."

> "Both of our countries must build and shape our health care to serve the needs of the people, not the needs of the state or the current system."
>
> *–Nikolai Shevtsov*

The Duluth physicians also met a people much different from the stereotypes they held. "What most impressed me was their deep spirituality," said Kwako. "In spite of years of repression and religious persecution, they clearly still find great strength in their religious beliefs. So much for the concept of 'Godless communists'!"

Crouse said he, too, discovered some of his own misconceptions. "I'm a little embarrassed to admit just how much effect 40 years of Cold War indoctrination had had on me," he said. "The people we met were not cold and heartless. Quite the contrary, they were warm, compassionate, and hospitable, welcoming us into their homes and hearts." Many have a wonderful sense of humor, he said, referring to the Soviets' jokes about their political system, Gorbachev, and even the KGB.

"Programs like this are effective and valuable in breaking stereotypes as well as in building personal and professional connections. It's been so valuable for us to actually go to Russia, to see for ourselves what the country and people are really like—and vice-versa," Crouse said.

The Russians shared similar impressions of Americans. "I'm afraid we still had in our minds some of the ideology of the Cold War a little," admitted Posnova, speaking for the group. "But we quickly found out that we are all much the same—we have the same concerns in our practices, face the same illnesses, and we can, in fact, communicate and understand one another so easily. It just seems so natural now, but the road to this point has been so, so long and difficult." MM

Joseph Moriarity is a free-lance writer/editor from Marine on St. Croix, Minnesota.

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1. Benson RC Jr. Laser photodynamic therapy for bladder cancer. Mayo Clinic Proc 1986;61:859-64.
2. Guttormson NL, Bubrick MP. Mortality from ischemic colitis. Dis Colon & Rectum, to be published.
3. Chaterjee SN. Use of GOR-TEX grafts as vascular access procedure for chronic hemodialysis. Abstract of a paper submitted to the European Society for Artificial Organs Eighth Annual Meeting, Copenhagen, August, 1981.
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Cardiovascular Disease in Children

Reflections on the Last Half Century and Expectations for the Future

Edward L. Kaplan, M.D., and Albert R. Rocchini, M.D.

Cardiovascular problems in neonates, children, adolescents, and even in young adults were somewhat mysterious and difficult to deal with four or five decades ago. Not only was relatively little known about the epidemiology and pathogenesis of cardiovascular problems, but therapeutic options were also very limited.

Think about it. Rheumatic fever and rheumatic heart disease were rampant, with yearly incidence figures for rheumatic fever in Minnesota as high as about 100 cases per 100,000 population. Antibiotics to treat streptococcal upper respiratory tract infection were unavailable. A diagnosis of infective endocarditis was essentially a death sentence. There was very little, if anything, to offer infants and children born with most types of congenital heart disease. The electrocardiogram, the roentgenogram, and the stethoscope were practically the only diagnostic tools available to the primary care physician. Cardiac catheterization laboratories were only partially developed, consisting of a dimly lit room with a modified fluoroscope and some other X-ray equipment. Congestive heart failure could be treated, but few other medications were available. Infrequent palliative surgical procedures were the best a physician could offer. Most reparative operations for congenital heart disease awaited the development of a reliable system of cardiopulmonary bypass, which became available in the 1950s. Some children had hypertension—usually those with coarctation of the aorta. "Normal" blood pressures in children had not been defined. Defining arrhythmias was, for the most part, only an academic exercise. Almost nothing could be done for these children pharmacologically, and certainly no pacemakers were available for clinical use.

Little was understood about the epidemiology or genetics of cardiovascular disease in the pediatric age group. Preventive cardiology in children was not only unknown—it was almost inconceivable. Clusters of cardiovascular malformations, such as those that occurred in infants of women who contracted rubella during pregnancy, were usually considered random occurrences, as was the presence of multiple offspring in the same family with such unusual clinical presentations as idiopathic hypertrophic subaortic stenosis. Equally important, the familial forms of hyperlipidemia or hypertension were poorly understood at best. Thus, because of the paucity of information about cardiovascular disease in children, there was little that physicians could do.

> "Four or five decades ago, preventive cardiology in children was not only unknown—it was almost inconceivable."

How practice has changed during these recent decades! The exponential increase in knowledge has dictated remarkable changes in the way primary health care is delivered to children with cardiovascular diseases. Newborn infants with cardiovascular problems can be recognized immediately and transported for diagnostic and surgical procedures that seemed impossible in the 1950s. Transport of an ill child has been made relatively safe by new pharmacologic agents such as prostaglandin. Noninvasive diagnostic procedures, such as high resolution color flow doppler echocardiography, have enabled accurate diagnosis of even the most complex congenital cardiac anomalies in not only the infant and child, but in the unborn fetus as well. The interventional catheterization laboratory has reduced the need for operative procedures, especially in many critically ill patients. Our understanding of the genetics related to many of these cardiovascular diseases has made genetic counseling a regular part of the medical management of patients and their families. All of these unbelievable changes have occurred during just one generation of physicians.

This issue of *Minnesota Medicine* (page 27) contains the first of a three-part series outlining some of these changes in the diagnostic and therapeutic approaches to children with cardiovascular disease. These three articles, written from the primary care physician's point of view, summarize current concepts about a number of the more common cardiovascular diseases in children. Not only are these present approaches incredible when considering the changes that have occurred, but they are especially encouraging as we consider what a similar series of articles will be able to describe two or three decades from now. MM

Edward Kaplan and Albert Rocchini are from the Division of Pediatric Cardiology, Department of Pediatrics, University of Minnesota Medical School, Minneapolis, Minnesota.

Forty Years of Cardiac Disease in Children

Progress and Problems—First of Three Parts

James H. Moller, M.D., and Edward L. Kaplan, M.D.

ABSTRACT

We review the major advances that have occurred in the diagnosis and treatment of cardiac diseases in children during the last four decades. During this period, most forms of congenital heart disease have become treatable by operation, and diagnosis has become possible through echocardiography alone. Operative mortality has dropped, and long-term follow-up shows excellent results in most patients.

The incidence of rheumatic fever has declined, although it has increased recently in several areas of the United States. The occurrence of infective endocarditis and of myopericarditis has remained stable, while the recently described Kawasaki disease can affect the coronary arteries in children and appears to represent a new condition.

In the past 40 years, many changes have occurred in the care of children with cardiac malformations and diseases. Several basic and applied biomedical science discoveries have led to improved methods of diagnosis and treatment. We discuss the changes that have occurred in children with cardiac malformations and with particular acquired cardiac diseases. In certain instances, we emphasize the role of physicians and surgeons at the University of Minnesota Hospital in making these advances possible, and we discuss data from our own studies when it helps to illustrate the progress that has been made. Although we take a historical view in this article, we hope to portray the excellent outlook for many children currently receiving cardiac care and to offer an understanding of the areas or conditions where progress is still needed.

Early Breakthroughs

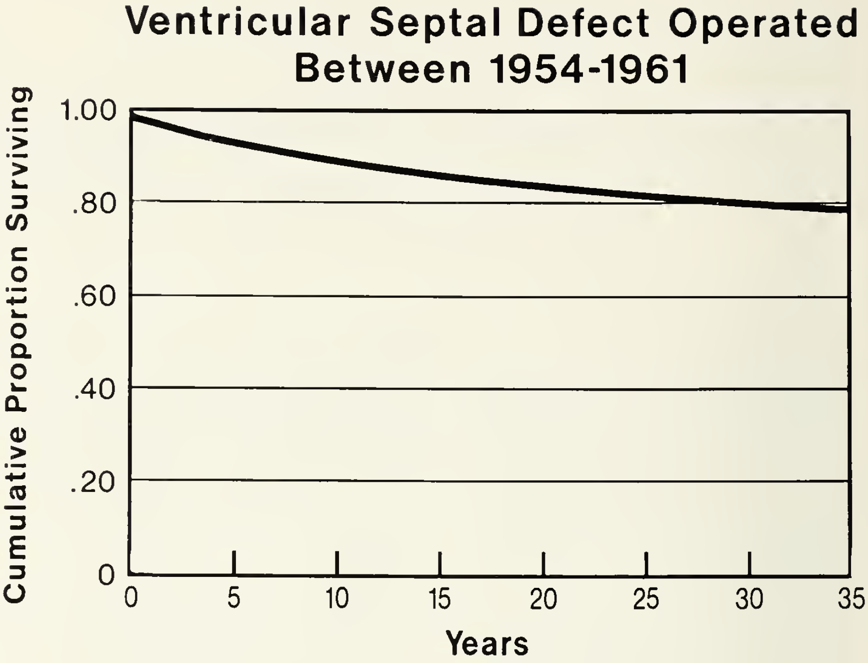
The modern era of care for children with cardiac anomalies and diseases began 40 years ago, in 1951. The explosion of knowledge and techniques that began at this time stemmed from some pivotal events that occurred during the previous two decades. In 1929, a German surgical resident performed the first cardiac catheterization in a human.[1] In 1949, Cournand and Richards performed cardiac catheterization in humans to measure cardiac output.[2] The technique was quickly extended to the study of patients with cardiac conditions, and the first catheterizations of children were performed at the University of Minnesota in 1950. This technique enhanced diagnosis of cardiac malformations and assessment of their severity, and it is fortunate that methods of surgical treatment were simultaneously being developed.

Gross performed the first ligation of a patent ductus arteriosus in 1938 at The Children's Hospital in Boston.[3] In 1944, two other cardiac malformations were operated on for the first time: coarctation of the aorta by Craafort in Sweden[4] and tetralogy of Fallot using a Blalock-Taussig shunt at the Johns Hopkins Hospital.[5] These three surgical procedures allowed correction or palliation of certain cardiac malformations and did not require cardiopulmonary bypass.

The next major breakthrough was the ability to operate within the heart and correct intracardiac anomalies. In 1951, Gibbon operated on a patient with an atrial septal defect using a heart-lung machine he had developed.[6] Meanwhile, at the University of Minnesota from 1952 to 1954, 60 patients underwent repair of an atrial septal defect using cardiac arrest and hypothermia; 54 survived.[7] This step was important because it demonstrated that intracardiac defects could be closed successfully and that the heart could function well postoperatively. In fact, one of these initial patients recently died at age 89. But more complicated malformations within the ventricles would require longer intracardiac surgery, and to correct such anomalies, a means of supporting circulation during operation was needed.

Congenital Heart Disease

The first intracardiac repairs of a patient with a ventricular septal defect and a patient with tetralogy of Fallot were performed at the University of Minnesota in 1954.[8,9] During 1954 and 1955, 47 children underwent open-heart surgery using a cross-circulation technique in which the child's parent served as the pump-oxygenator. A chimera was formed with the circulation of the parent and the child connected by tubing while the parent oxygenated and perfused the child. Twenty-three of these children are still living.[10] During this period, a pump-oxygenator was being developed and tested, and in 1955 this "bubble oxygenator" was available for use, quickly replacing cross-circulation at the University of Minnesota. From 1954 through 1960, more than 1,000 patients underwent intracardiac repair of their cardiac anomalies using cardiac bypass techniques at the University of Minnesota Hospitals. In this report, we describe the long-term outcome of children with cardiac malformations initially seen during the 1950s, outline these patients' current status, and discuss the problems they experienced during the past three to four decades.



Figure—Ventricular septal defect operation between 1954 and 1961. Cumulative proportion of 291 patients surviving.

Patient outcomes

Of the 341 patients with a ventricular septal defect (VSD) operated on between 1954 and 1961 at the University of Minnesota, 296 have survived.[11] Recently, we completed a study in which 291 of these survivors were contacted to determine their current status.[12] Five were lost to follow-up during the 30 to 35 years since operation. Of the survivors, 59 (20%) have died, with 31 of the deaths occurring in the first decade after surgery (Figure). A number of the deaths resulted from causes that would now be unusual given current operative techniques and management algorithms. Ten of these deaths resulted from complete heart block, now largely avoided by treatment with a pacemaker; nine died during a cardiac reoperation for a residual anomaly, also now an uncommon problem; and 16 died from pulmonary vascular obstructive disease. With the current tendency to surgically close VSD in infancy, the problem of pulmonary vascular obstructive disease should be largely avoided. Other deaths may be ascribed to problems related to the operation at that time, but the connection is less certain; for example, five patients died suddenly and unexpectedly and one died from heart failure. The other causes of death were accidents (6), complications of infections (4), and unknown causes (8). Only 20 of the survivors have had a cardiac rhythm disturbance other than heart block, and half of these are being treated with medication. Infective endocarditis occurred in nine patients during the total of 7,912 patient years (rate=11.4/10,000 patient years). Three of these episodes occurred in patients with a successfully closed defect and no apparent residual anomaly. Only nine of the 291 survivors have a serious illness: five cases of diabetes mellitus, and single cases of rheumatic fever, Hodgkin's disease, multiple sclerosis, and breast cancer. Notably, three patients have developed congestive cardiomyopathy in the past decade, and two are awaiting cardiac transplantation.

Among the survivors, 85% have neither cardiac symptoms nor limitation of exercise, and 10% have slight limitation of exercise. Among the 294 offspring of these patients, nine (3%) have had a cardiac malformation, a rate that exceeds the usual occurrence rate of 0.8%.

In another study,[13,14] one of the authors (JHM) followed 1,000 consecutive patients referred to a single pediatric cardiologist between 1952 and 1963. Of these 1,000 patients, the current status of 997 was ascertained in 1989, 26 to 37 years after the initial evaluation of their cardiac malformation. Three patients, each with a small ventricular septal defect, have been lost to follow-up. The study encompasses a total of 22,774 patient years. The relative frequency of cardiac malformations in this group is similar to the distribution of anomalies reported in the literature.[15] Among the 997 patients whose status was determined in 1989, 712 are living. While deaths have occurred throughout the period of observation, most occurred within the first two years following the initial evaluation, and most of these early deaths were related to the cardiac malformation itself (e.g., complete transposition or aortic atresia) or the combination of the cardiac malformation and either a serious non-cardiac malformation or a respiratory infection. Many of the 111 deaths from the cardiac malformation itself occurred in an era before corrective or palliative procedures had been developed for the malformation. Only 20 deaths have occurred during the past decade, and 11 of these deaths were related to the cardiac malformation or its complications. Physicians are often concerned about the problem of sudden death in patients with a cardiac malformation. Twenty-one of 285 deaths were sudden. Ten of the 21 occurred in asymptomatic patients, including three postoperative patients, four with aortic stenosis, two with pulmonary stenosis, and one with a VSD and pulmonary vascular obstructive disease. Ten other symptomatic patients died suddenly, including five with progressive pulmonary vascular obstructive disease and five others with a variety of operated and unoperated cyanotic cardiac malformations. The remaining death was sudden and unexpected and occurred on the fifth postoperative day in a 2-month-old patient with Down's syndrome.

This unique long-term study provides a great deal of information about a number of issues regarding cardiac malformations. The first issue relates to ventricular septal defects. In the study, 262 patients had a VSD; 80 of these patients underwent an operation to close the defect. The VSD has undergone spontaneous closure in 71 (39%) of the remaining 182 patients. The mean age at which the defect closed was 4.5 years, and the oldest patient was 26 years old when the VSD murmur disappeared.

Second, 20 cases of infective endocarditis occurred in 15,481 susceptible years (12.9/10,000 patient years). The episodes occurred in five conditions: VSD, 3/10,000 patient years; coarctation of aorta, 10.4/10,000 patient years; aortic stenosis, 24.9/10,000 patient years; tetralogy of Fallot, 86.2/10,000 patient years; and complete transposition, 147.0/10,000 patient years. The occurrence has been lower in the past decade, perhaps because of the use of endocarditis prophylaxis.

Third, brain abscess occurred in five (2%) of 243 patients with a right-to-left shunt. The occurrence rate of brain abscess was 16.7/10,000 cyanotic patient years.

Fourth, significant cardiac arrhythmia or heart block occurred in 38 of the 997 patients. The patients have not been systematically monitored using continuous electrocardiographic monitoring devices. Six of the 38 have died, three with complete heart block and the other three with atrial fibrillation and a non-correctable cardiac condition. Only 10 of the 32 survivors with an arrhythmia are currently receiving medication, and 10 others have a cardiac pacemaker, in most instances for postoperative complete heart block.

Fifth, the current status of the 712 survivors was assessed. Of these, 254 (35.7%) are without symptoms, murmurs, or cardiomegaly. They also have normal electrocardiograms, except for postoperative complete right bundle branch block in some patients. Another 378 (53%) are asymptomatic and have normal-sized hearts but have either a cardiac murmur or an electrocradiographic abnormality. Sixty-three (9%) have either minimal or no symptoms, but have either a major residual abnormality, cardiac pacemaker, or prosthetic valve. The remaining 17 patients (2%) have symptoms and evidence of definite cardiac abnormality.

These two long-term studies of children with cardiac malformations show 20% to 30% late deaths during the period of observation. Many of these deaths could be avoided today with current management and operative techniques. Most of the survivors are asymptomatic and have few cardiac or other medical problems. Thus, the outlook for children undergoing care for a cardiac malformation in the 1990s should be even better.

Techniques for diagnosing and managing cardiac malformations

In the decades since the first cardiac operations, techniques have become available to operate on infants with a number of cardiac malformations. Indeed, many major advances have enhanced the care and outcome of cardiac malformations in childhood, particularly in neonates and infants. The replacement of cardiac catheterization by other diagnostic techniques has significantly reduced mortality, morbidity, and cost. Even before the development and use of echocardiography, we were using auscultation, X-ray, and electrocardiography alone to make the cardiac diagnosis in certain conditions and to recommend operation based solely on these clinical observations. Since 1960, we have rarely performed cardiac catheterization for coarctation of the aorta or patent ductus arteriosus, and since 1979 we have not considered catheterization necessary to establish a diagnosis of atrial septal defect.[16] Subsequently, echocardiography has become available to assist in the diagnosis of these conditions and many others as well. We rarely perform a catheterization before operation in neonates and infants, since their anatomy and hemodynamics can be well-illustrated by echocardiography.[17] Catheterization is primarily used when infants require intervention or when the anatomic information needed is beyond the range of echo.

The second major advance is the availability of prostaglandin E1 to maintain ductal patency in neonates, which has allowed the safe transport of critically ill neonates to cardiac centers and has helped stabilize them before cardiac operation.[18]

Finally, the skills, abilities, and interests of cardiologists have been directed to the problems presented by neonates and infants. Twenty-five percent of infants with a cardiac malformation are hospitalized within the first week of life. In one study performed between 1968 and 1974, the mortality from cardiac malformations in hospitalized infants was 40%, and for those in the first month of life it was 54%.[19] Thus, if mortality is to be lessened, attention needs to be directed at the very young. Following this study, one of the authors (JHM) performed a study of infants cared for at one of 15 cardiac centers in the central United States from 1982 to 1987. The overall mortality for infants during this period was 20%, and for those less than one week of age it was 32%.[20] This represents a significant reduction in medical and operative mortality for neonates and infants.

In a study of 22,000 cardiac operations performed at 20 centers in the United States, author JHM observed a reduction in operative mortality for children (>1 year of age) from 9% to 4% from 1982 to 1989, while the operative mortality for infants fell from 20% to 16% during the same time period.[21] While the mortality for the first year of life and for most ages has fallen, it remains high for the first month of life because of the complex nature of the malformation, the size of the infant, and the frequent association of non-cardiac malformations.

During the past four decades, an era representing the development and expansion of cardiac surgery, mortality has fallen and procedures to diagnose and manage children have helped reduce morbidity. Our long-range studies show excellent outcomes for most of the first patients who survived intracardiac repair of cardiac malformations. The deaths and morbidity that have occurred are largely related to the pattern of care in the 1950s, a pattern that has since been considerably improved.

Acquired Heart Disease

Rheumatic fever

The relative proportion of children with congenital and acquired heart disease has changed remarkably since the 1950s. Congenital heart disease is now more common than acquired heart disease in children. The incidence of most forms of congenital heart disease has not changed significantly during this period, but the incidence of rheumatic heart disease has decreased.

Previously, the most common form of acquired heart disease was from rheumatic fever. Three times as many San Francisco school children studied in the 1940s had acquired heart disease than congenital heart disease.[22] Studies by Fleming and colleagues from the Minnesota Department of Health revealed that the incidence of acute rheumatic fever in the state's eight health districts ranged from 60 to more than 100 cases per 100,000 per year.[23] For comparison, the current incidence of rheumatic fever in Minnesota may be as low as 1 per 100,000 per year.

The very high incidence of acute rheumatic fever and rheumatic heart disease in Minnesota in the 1950s led to the creation of the largest and most effective rheumatic fever registry in the United States. More than 13,000 patients were ultimately registered. In the registry's early years, free antibiotics were provided to rheumatic fever patients for secondary prophylaxis.

In the early 1980s, few cases were reported to the Minnesota Department of Health, and the accuracy of diagnosis for the reported cases was doubtful in a large percentage.[24] The registry was eventually abolished because of financial constraints, because the yearly number of rheumatic fever cases decreased, and because prophylactic antibiotics could be purchased inexpensively. As a result, data are unavailable about the true incidence of rheumatic fever or prevalence of rheumatic heart disease in Minnesota. However, data are available to suggest that rheumatic fever continues to occur. A nationwide resurgence of acute rheumatic fever from 1985 to 1990 caused the number of cases to increase five to 12 times over the previous decade.[25] The largest outbreak was recorded in Utah, but other states, such as Ohio, Pennsylvania, Tennessee, Missouri, and California, have also had many cases in children. More than 20 states have had relative increases in the annual number of acute rheumatic fever cases,[25] although Minnesota has not.

The resurgence of rheumatic fever in the United States is of particular importance since data collected elsewhere but applicable to Minnesota children indicate that the incidence of streptococcal upper respiratory tract infections has not decreased during the last two or three decades.[26] Thus, the potential remains for rheumatic fever to occur.

Rheumatic fever and rheumatic heart disease remain the same pathogenetic enigma of 1950. The group A beta hemolytic streptococcus initiates a process, most likely an immunological one, that leads to the arthritis, carditis, and other manifestations of rheumatic fever. Although significant progress has been made in "dissecting" the group A streptococcus and much has been learned about the host immune response to this organism, the precise pathogenetic mechanism that results in rheumatic fever remains unexplained. Diseases are optimally controlled when their pathogenesis is understood. Therefore, rheumatic fever is controlled by adequate diagnosis and antibiotic therapy of the preceding streptococcal upper respiratory tract infection.

Myopericarditis

The incidence of myopericarditis is unknown. Based on the epidemiology of the many viruses frequently associated with myopericarditis in children, the incidence of this disease has probably not changed significantly. Like most infectious diseases, it is often cyclic in occurrence. Therefore, while the incidence may vary annually, changes in epidemiology over a period of decades may be unusual.

Many of the common childhood viruses, such as varicella and mumps, can have cardiovascular manifestations.[27] Cardiovascular manifestations of other viral diseases often go unrecognized. A high index of suspicion must precede the diagnosis.

Lyme disease is a recently recognized and important cause of acquired cardiovascular disease in children and adults in the Upper Midwest. The apparent increase, particularly in western Wisconsin and in eastern Minnesota, has emphasized the need for inclusion of this disease in the differential diagnosis of acquired heart disease, especially when cardiac arrhythmia occurs with other systemic manifestations.

Bacterial endocarditis

Bacterial endocarditis was a very frequent complication among children with both congenital and acquired heart disease before antimicrobial agents and cardiovascular surgery became available. An astonishingly high percentage of patients could previously be expected to develop bacterial endocarditis during their lifetimes. Unfortunately, this infection still occurs in children.[28] In fact, data suggest an increased number of cases when compared with the number of cases diagnosed two or three decades ago.[28]

Table

*Prevention of bacterial endocarditis**

Procedures	Antibiotic(s)	Alternative(s)	Duration	Comments
Dental or upper respiratory tract procedures	Amoxicillin or penicillin V	Erythromycin or clindamycin	Usually 2 doses	Note regimens for high risk or for penicillin allergy
Gastrointestinal/genitourinary tract procedures	Amoxicillin	Ampicillin *plus* gentamicin	Usually 1 or 2 doses	Vancomycin for penicillin allergy
Cardiovascular surgery	Anti-staphylococcal drug, usually nafcillin *or* vancomycin		Usually 1 to 3 days post-op	Depends on antimicrobial sensitivity in the hospital

*Modified from *JAMA* 1990.[29] The physician is encouraged to read the entire set of recommendations to answer questions regarding those clinical situations not specifically mentioned here.

The reasons for the increase are not completely understood, but may be related to the increased risk related to longer survival. In addition, data suggest an increased number of episodes are associated with the perioperative period. The increasing number of cases caused by staphylococci, especially staphylococcus aureus, indirectly supports this suggestion. While streptococci that normally inhabit the oral cavity and upper respiratory tract are still the most common cause of infective endocarditis in children, staphylococci are responsible for an increasing proportion of cases. This is unfortunate, because morbidity and mortality associated with staphylococcal endocarditis are considerably higher than with viridans streptococcal infection.

Because of its rarity, infective endocarditis is another acquired cardiovascular disease in children that is frequently not considered at the onset of illness. The average primary care physician may encounter one case of infective endocarditis during his or her career. Thus, the combination of ill-defined presenting symptoms and the relative rarity of infective endocarditis makes its inclusion in an initial differential diagnosis uncommon, even in children with known heart disease.

Because of the significant morbidity and mortality associated with infective endocarditis, prophylaxis is very important in children with cardiac disease. Several committees have published recommendations for antibiotic prophylaxis to prevent infective endocarditis. The joint recommendations of the American Heart Association and the American Dental Association, which are revised about every three or four years, have been the most widely utilized. The most recent revision of these recommendations was published in 1990.[29] Individual copies of these recommendations, as well as wallet cards that may be given to patients advising them of the need for infective endocarditis prophylaxis, are available from the American Heart Association's Minnesota affiliate.

The table lists the antibiotics most frequently given for prophylaxis for prevention of bacterial endocarditis. The most important change in the recent revision of these recommendations was an attempt to simplify the regimens while still using the most effective antimicrobial agents. In contrast to 20 or 30 years ago, when antimicrobial agents were given several days in advance of a procedure and also for several days following it, two doses of antibiotics for a typical visit to the dentist have become accepted. A more detailed description of these recommendations, with the suggested antibiotics and doses to be used and precautionary measures to be considered, are available in the original published recommendations.[29]

Kawasaki disease

Kawasaki disease, or mucocutaneous lymph node syndrome, first described in Japan in 1967 by Kawasaki,[30] has become widely recognized in many countries. In the United States, it has now replaced rheumatic fever as the most common acquired form of heart disease in children. The principal symptoms of the acute phase of the syndrome include fever lasting five days or more, reddening of palms and soles with indurative edema, membranous desquamation of fingertips, polymorphous exanthema, bilateral nonpurulent conjunctivitis, acute nonpurulent cervical lymphadenopathy, and changes of the lips and oral cavity (reddening of lips, strawberry tongue, diffuse injection of oral and pharyngeal mucosa). From 15% to 20% of patients develop evidence of coronary artery aneurysms, usually within one to three weeks after the onset of first symptoms. These lesions may persist and become aneurysmal in 15% to 20% of the patients and resolve in the remainder. In patients with persistent aneurysms, they can become thrombotic and stenotic. Rarely do aneurysms rupture. During the acute phase of the illness, the incidence of sudden cardiac death from Kawasaki's syndrome is less than 1%.

Kawasaki syndrome can be associated with other organ diseases, including aseptic meningitis, diarrhea, gallbladder hydrops, obstructive jaundice, uveitis, and urethritis. In most cases, the organ system disease is confined to the acute phase of the disease and is usually self-limiting.

The etiological agent is unidentified. Agents proposed thus far are rickettsiae, propionibacteria, streptococcal toxins, retrovirus, house dust mite antigen, carpet shampoo, and mercury. The epidemiologic characteristics of the syndrome, especially its tendency to occur among young children in time-place clusters and mostly in winter and spring months, suggest a viral etiology.

Use of aspirin and gamma globulin is the primary treatment for this syndrome. Recent controlled clinical trials of intravenous gamma globulin combined with aspirin (80 to 100 mg/kg) have demonstrated a fourfold to fivefold reduction in the prevalence of coronary artery abnormalities.[31] Gamma globulin's exact mechanism of action is unknown. When the patient becomes afebrile, or about two weeks into the illness, the aspirin dosage may be reduced to 3 to 5 mg/kg. In the absence of coronary artery disease, aspirin therapy is usually continued for two months after the onset of illness, provided that signs of inflammatory disease (sedimentation rate and platelet count) disappear. In patients with coronary artery disease, aspirin therapy should be continued indefinitely.

In patients with persistent coronary artery aneurysms, close follow-up for signs of coronary insufficiency is necessary. If significant stenosis of thrombosis should develop, appropriate therapy, including coronary artery bypass surgery, thrombolytic therapy, or even balloon angioplasty, should be considered. The long-term natural history of patients who have coronary artery aneurysms that regress is unknown. However, it is strongly recommended that these patients be given long-term follow-up to determine if they develop coronary atherosclerotic disease at an increased rate. At the University of Minnesota Hospitals, we currently follow all children with Kawasaki's disease in a special clinic.

Summary

Many children with cardiac disease, either congenital or acquired, have reached adulthood. Most are healthy and without cardiovascular symptoms. These patients should be seen periodically during adulthood by cardiologists who have knowledge about their basic condition and their long-term course. These patients need guidance regarding concerns such as recurrent risks, activity levels, insurability, and infective endocarditis prophylaxis. Additionally, the opportunity to continue observation of these patients allows further definition of prognosis, particularly as they reach an age when coronary atherosclerosis develops. MM

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Getting the Best Price from Health Plans

Legal Pitfalls of Physician Cooperation

Daniel J. McInerney, Jr., Esq., and William L. Greene, Esq.

Physicians and hospitals in the Mankato area agreed in 1990 to pay a civil fine of $125,000 and to provide $450,000 worth of free or discounted medical care to settle charges brought by the Minnesota attorney general. The physicians and hospitals were accused of conspiring to boycott managed care health plans in the Mankato area. According to the complaint filed by the attorney general, the Mankato physicians had formed an association to implement an agreement dictating the terms under which all members would agree to do business with third-party payers. In July, a group of Alexandria physicians agreed to pay a civil penalty of $50,000 and to provide $100,000 in free medical care to settle similar charges of collusion.

Allegations of this sort are not unique to Minnesota. Similar charges have been brought in recent years against Colorado and Texas physicians, New York chiropractors, and Pennsylvania dentists. Frustrated by the "take-it-or-leave-it" negotiation style of health plans representing thousands of subscribers, as well as by the substantial diminution of income resulting from health plans' demands for steep discounts, some independently practicing physicians are allegedly banding together to increase their bargaining leverage with health plans. Such action, however, may very well violate the antitrust laws.

The antitrust laws consist of federal and state statutes established to assure that consumers receive the benefit of vigorous competition. These statutes are predicated on the belief that competition forces businesses and professionals to offer better or less expensive products and services in order to attract customers and earn profits. Collusive agreements among competitors to "fix" prices or allocate markets eliminate the incentive to offer better products or lower prices. Antitrust laws prohibit such agreements and instead require that each separate business or professional entity independently decide its prices and choose its customers.

> "An agreement among competing physicians to charge the same fees for their services constitutes illegal 'price-fixing.' "

Many health care professionals and some commentators have suggested that the type of competition ordinarily mandated by antitrust laws may actually decrease the quality and increase the cost of medical care. To date, however, Congress, state legislatures, and the courts have not been very sympathetic to this point of view. The antitrust laws apply with full force to medical care, and, more specifically, to joint conduct by competing physicians. Therefore, an understanding of the most significant applications of antitrust principles related to physician practice is essential.

Third-Party Payer Negotiations

As every physician knows, patients in many cases do not pay for medical services performed on their behalf. Even with recent increases in coinsurance and deductible amounts, consumers who are covered by employer-provided insurance or self-provided coverage do not pay providers for most medical services they receive. In most instances, health plans pay providers for these services.

Consequently, physicians often must "negotiate" the price of their services with third-party payers, each of which may represent thousands of individual health care consumers. Often, individual physicians conclude that they must accept whatever fee schedules are presented by large insurers, PPOs, or HMOs, regardless of whether the fees are reasonable by any objective standard. Prepaid health plans create strong economic incentives for subscribers to select only participating physicians who have accepted the plan's fee schedule. Physicians who leave a prepaid plan because of dissatisfaction with the plan's fee schedule risk losing access to a significant portion of their patients.

Illegality of Certain Types of Collective Action

Faced with what is often a substantial bargaining disadvantage, independently practicing physicians or physician groups may be tempted to work jointly to increase their bargaining leverage and to improve their contract terms with health plans or other purchasers. Such collective action can take the form of an agreement that each physician or physician group will demand a certain fee, or an agreement that each physician will refuse to negotiate with or participate in a prepaid plan unless the plan's fee schedule is increased.

Under federal and state antitrust

laws, such collective action by independent physicians is clearly unlawful. An agreement among independently practicing and competing physicians or physician groups to charge the same fees for their services constitutes illegal "price-fixing." Any physician or physician group may *unilaterally* determine when to deal (or not deal) with a health plan; however, an agreement among competing physicians or physician groups to refuse to participate in a health plan is generally considered an illegal group "boycott." These antitrust violations are punishable as criminal felonies, and violators can be fined and sentenced to prison. Violations can also result in civil lawsuits, and violators can be ordered to pay "treble damages"—three times the damages actually suffered by third-party payers or consumers.

No 'Reasonableness' Defense

In a case last year involving a boycott organized by a group of attorneys, the U.S. Supreme Court confirmed that a boycott or price-fixing agreement cannot escape condemnation under the antitrust laws even if the goals of the agreement are reasonable or even praiseworthy. In *FTC v. Superior Court Trial Lawyers Association*, a group of private attorneys who had accepted court appointments to represent indigent criminal defendants agreed among themselves to cease representing any clients until the local government increased their compensation from $20 to $35 per hour. The attorneys' rates had not been raised for 13 years, while the consumer price index had increased by 147 percent. Although the Supreme Court assumed that the pre-boycott rates were unreasonably low and harmful to the quality of legal representation for indigent defendants, the Court held that the boycott was a *per se* violation of the federal antitrust laws: "The social justifications proffered for respondents' restraint of trade thus do not make it any less unlawful. ... [The trial attorneys' argument] ultimately asks us to find that their boycott is permissible because the price it seeks to set is reasonable. But [under the antitrust laws] it 'is no excuse that the prices are themselves reasonable.' "

In light of the *Trial Lawyers* case, physicians should not expect courts to excuse a boycott or price-fixing agreement based on the grounds that a fee schedule offered by an insurer is unreasonably low.

Collective Persuasion

In theory, the antitrust laws do not prohibit a group of independently practicing physicians or physician groups from engaging in collective efforts to *persuade* an insurer to increase its fee schedule, provided that the persuasion is not accompanied by a group boycott. As a practical matter, however, physicians who engage in such collective persuasion could be charged with making statements to facilitate an unlawful boycott or price-fixing conspiracy. Prudence dictates that independently practicing physicians or physician groups should not communicate with each other about the reasonableness of fees, directly or through a representative or association, except under the careful and informed guidance of legal counsel.

"Antitrust laws place significant limits on collective action among independently practicing physicians."

Collective Bargaining by Employees

Under an exception to the rule prohibiting price-fixing, members of labor unions may generally engage in collective bargaining over wages, hours, and working conditions. In 1943, however, in *American Medical Association v. United States*, the U.S. Supreme Court refused to apply the labor exception to an association of physicians who practiced independently on a fee-for-service basis. The Court reasoned that the physicians were independent business persons rather then "employees in any proper sense of the term."

Although subsequent decisions have expanded the labor exception to include some independent contractors in limited circumstances, the *American Medical Association* case would presumably preclude the application of this labor exception to any collective bargaining with third-party payers by an association of independently practicing physicians and practice groups. Conversely, the labor exception arguably could, under some circumstances, permit collective bargaining over wages by *employee* physicians who work for a salary under the direction and control of an employer, such as a hospital.

Practice Mergers

The laws that prohibit collusion, price fixing, and group boycotts apply only to agreements between *separate* business or professional entities. A single business or professional entity cannot conspire with itself. Similarly, the owners and employees of a business cannot conspire among themselves about the operation of that business. Thus, physicians who own a group practice can make a joint decision to refuse the reimbursement terms offered by an insurer, even though the same conduct by unaffiliated physicians would violate antitrust laws. Independently practicing physicians or physician groups seeking additional bargaining power may, therefore, want to consider forming a larger business entity by merging.

A few caveats are in order, however. First, a practice merger must be *complete* in order to minimize the risk of antitrust liability for collusion. That is to say, the physicians in the merged entity must have pooled their capital, must share the risk of loss, and must not practice medicine outside the group. Second, a merger of this type can itself violate antitrust laws if the merger tends to lessen competition in a market. Such a determination necessarily depends on the circumstances of each case. On the one hand, the formation of a group practice by a handful of solo practice physicians in the Twin Cities would probably not raise serious antitrust concerns. On the other hand, the formation of a group practice by most or all physicians who practice a particular specialty in a smaller community could substantially limit the choices available to consumers and could, therefore, be subject to an antitrust challenge.

PPOs: Competing with Health Plans

Although the antitrust laws prohibit physicians from collectively boycotting health plans, the antitrust laws do not prohibit physicians from collectively competing against health plans. By forming preferred provider organizations (PPOs), independently practicing physicians can, in some circumstances, adopt a uniform fee schedule and collectively market their services directly to purchasers. Such an alternative may be particularly attractive to physicians who believe they are undercompensated because health plans maintain an excessive "spread" between the premiums paid by subscribers and the fees paid to physicians.

Such partially integrated joint ventures, in which physicians market collectively and adopt a uniform fee schedule but do not merge their practices for all purposes, are individually scrutinized under antitrust laws based on the joint venture's probable impact on competition. For example, courts are likely to view a PPO as a lawful venture that promotes competition in situations where 1) physicians form a PPO by entering into a *bona fide* joint venture in which the participants pool capital and share risks, 2) the PPO constitutes a new product offering for health care consumers, and 3) the participating physicians continue to offer their services to other health plans independently of the PPO.

However, when physicians without shared risks or pooled capital form an independent practice association for the sole purpose of bargaining collectively with third-party payers, the participating physicians are likely to be found liable for violating antitrust laws. Because the application of antitrust laws to PPOs and other joint ventures is extremely complex, and because antitrust authorities carefully scrutinize joint ventures, physicians who are considering any sort of joint venture should consult with qualified legal counsel in the earliest stages of planning.

Relief Provided by State Government

The antitrust laws do not apply to state government actions, even if these actions can be characterized as economically anti-competitive. Thus, for example, the medical practice act, which prohibits free entry into the marketplace by forbidding those who lack state-required credentials from practicing medicine, does not violate federal or state antitrust law. Congress did not intend to prohibit states from suspending or preempting the rules of the marketplace when states wish to achieve an important social goal like protecting the public from incompetent medical practitioners. This doctrine, called the "state action" exemption, can occasionally be extended to insulate private non-governmental behavior from liability under antitrust law. The otherwise anti-competitive behavior must be sanctioned in state law and actively supervised by the state in order to be exempt from antitrust liability.

> "Antitrust laws do not prohibit physicians from collectively competing against health plans."

While there has been no significant public discussion in Minnesota on extending the protection of the state action doctrine to the actions of privately practicing physicians, such a discussion might occur with regard to inadequate access to physician services in extremely rural and medically underserved regions. State policymakers might view various forms of collective action by independently practicing physician competitors in such rural areas as the price of sufficient geographic access to medical care. (A request by physicians for this type of relief from the antitrust laws is not itself subject to antitrust liability, since antitrust law does not override citizens' constitutional rights to petition government for changes in the law.) So, for example, collective "bargaining" by two independently practicing physicians in a very rural community (50 miles away from the next available physician) with the health plan serving the town's largest employer might be considered in some circumstances to be a socially desirable means of maintaining essential medical care in the community. A carefully and narrowly drawn statute enabling such collective action to occur, e.g., under the auspices of a state public health official, would immunize potential price-fixing and group boycott actions from liability under state or federal antitrust law. Time will tell whether such an approach will be considered in Minnesota or accepted by the state Legislature.

Summary

Antitrust laws place significant limits on collective action among independently practicing physicians. The lawful options most likely to appeal to physicians include the complete merger of physician practices or the significant involvement of a physician or group in a partially integrated legitimate joint venture, such as a provider-sponsored PPO. Neither activity should be undertaken without the assistance of legal counsel. Change in the overall thrust of antitrust law is unlikely, and physicians must protect themselves from liability through careful business planning and the use of competent legal counsel. MM

Continued

The foregoing is a discussion of general legal principles; it is not legal advice. For legal advice, consult qualified legal counsel.

Daniel J. McInerney, Jr., is a member of the Minneapolis law firm of Leonard, Street and Deinard, P.A. He is chair of that firm's Health Care Law Group and is a former deputy commissioner of health for Minnesota. He is an associate professor at the University of Minnesota School of Public Health and a professor at the University of St. Thomas Graduate School of Management.

William L. Greene is a member of the Health Care Law and Antitrust and Trade Regulation Groups at Leonard, Street and Deinard. A former member of the Antitrust Division of the U.S. Department of Justice, he is vice chair of the Sherman Act Section 2 (Monopolization) Committee of the American Bar Association's Section of Antitrust Law.

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Many Plans Could Pay a Price for Limited Fiduciary Relief

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The Labor Department recently reproposed its regulation on exemptions from fiduciary liability in participant-directed individual account plans. The regulation potentially affects all individual account plans, i.e., profit sharing, 401(k), stock bonus, ESOP (Employee Stock Ownership Plan), money purchase, and target benefit plans.

This article describes some current investment features of individual account plans. It also discusses some of the changes in plan investment features that could be required for plan sponsors—if they elect to change their plans to gain the limited exemptions from fiduciary liability offered to plan fiduciaries and participants by the Department of Labor's (DOL's) reproposed regulation.

Individual account plans vary greatly in the number and types of investments offered to plan participants, and also in the frequency with which participants may change their investments. For plans seeking 404(c) protection, DOL's reproposal would establish minimum requirements concerning such investment features. As a result, some plan sponsors would have to make more changes in plan investment features than others, *if* the regulations are adopted as reproposed and *if* the plan sponsors seek 404(c) protection. Some plan sponsors might not have to make any changes.

In general, under the reproposal, if a participant in a section 404(c) plan exercises independent control over assets in his or her individual account, then:

- no plan fiduciary would be liable to the participant for any loss, or by reason of any breach of the Employee Retirement Income Security Act's (ERISA's) fiduciary responsibility provisions, that is the direct and necessary result of that participant's exercise of control, and
- the participant would not be a fiduciary because of the exercise of control.

However, even with such section 404(c) protection, plan fiduciaries would still be responsible for, among other things, prudent selection of investment alternatives offered to participants under the plan and proper monitoring of the performance of the investment alternatives. Also, the regulation specifically indicates that noncompliance with the regulation would not imply that a plan violates ERISA.

> "Individual account plans vary greatly in the number and types of investments offered to plan participants."

Thus, even when the regulation is finalized and becomes effective, plans will not need to be changed to conform with the regulation's terms unless 404(c) protection is desired. Each plan sponsor will have to consider the changes, if any, to its plan that would be needed to conform with the regulations, in light of the degrees of protection the regulation would provide as well as the associated administrative costs.

Number of Investment Options

The Labor Department's reproposal requires that a section 404(c) plan have at least three categories of investments. A recent survey of 740 employers with approximately 5.9 million employees obtained information on the number and types of investment options offered by the employers' plans for employee contributions (pretax and aftertax) and employer contributions.

According to the 1990 *Survey of Retirement and Capital Accumulation Plans** conducted by the Wyatt Company, 88 percent of the employers surveyed maintain an individual account plan. Seventy-three percent of those plans offer three or more investment options for employee contributions; 27 percent offer fewer than three options. Fifty percent of the plans offer three or more investment options for employer contributions, and 50 percent offer fewer than three options (Figure).

These results indicate that although many plans offer three or more investment choices, a significant number of plans do not. These plans would need to add one or more investment options to meet the DOL reproposal's three-option requirement. Even plans that now offer three or more investment choices may have to add or change options because they may not currently offer the required types of investment options.

Continued

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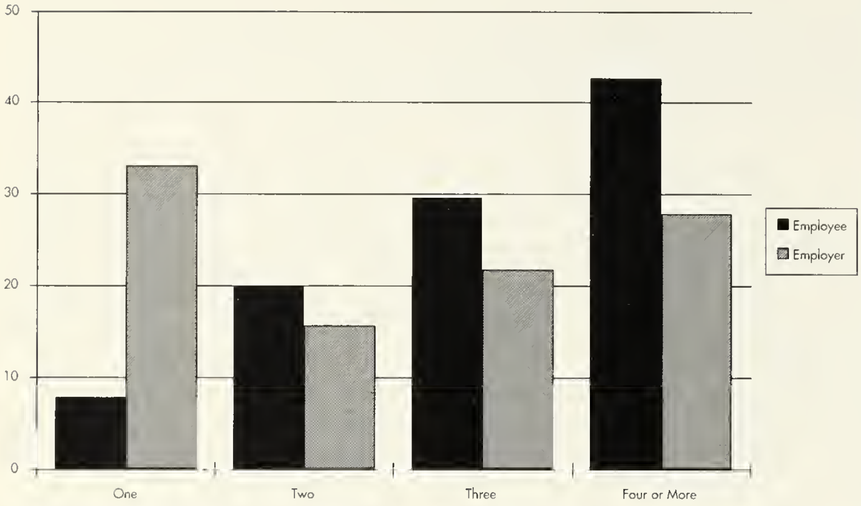
*Wyatt's *1990 Survey of Retirement and Capital Accumulation Plans* examined capital accumulation and pension plans for salaried employees in the United States. The report summarizes the results of Wyatt's COMPARE™ survey for capital accumulation and pension plans. The report is available free to survey participants and for $500 for nonparticipants. It can be ordered from Wyatt's Research and Information Center, The Homer Building, 601 13th Street NW, Suite 1000, Washington, D.C. 20005-3808; 202/508-4636.

Number of Investment Options Offered by Capital Accumulation Plans by Source of Contributions



Figure

Types of Investment Options

DOL's reproposal requires that the available investment alternatives be sufficient to give the participant a reasonable opportunity to:

- materially affect both the potential return on assets in his or her account and the degree of risk to which the assets are subject,
- choose from at least three diversified categories of investments that have materially different risk and return characteristics, and
- diversify his or her investments so as to minimize the risk of large losses.

Under this general standard, there are no definitive rules about which types of investment options will satisfy the three-category requirement. Plan fiduciaries would need to decide which mix of at least three options would meet the standard.

Guaranteed investment contracts could be one of the minimum three diversified categories. But, it appears that employer securities (company stock) could not be one of the three categories because employer securities would not be "diversified."

The survey produced data on the types of investment options under individual account plans. As the table shows, most plans offering three or fewer options offered guaranteed investment contracts. So, it is significant that guaranteed investment contracts could be one of the minimum three categories.

The table also shows that of the plans offering three or fewer investment options, 20 percent offered employer securities (company stock) as an option for investing employee pretax and aftertax contributions. Forty-one percent offered employer securities as an option for investing employer contributions. If employer securities could not be one of the minimum three categories, such plans would need to add at least one additional option for 404(c) protection.

Timing of Investment Changes

Under the DOL's reproposal, the participant must be able to give investment instructions with a frequency appropriate for the expected market volatility of the investment. Also, for at least three diversified categories of investments, the partic-

Table

Percentage of capital accumulation plans offering selected investment options by type of contribution and number of options

Type of Contribution	**Number of Investment Options Allowed by Plan**			
	Employee Contributions*		**Employer Contributions**	
	1 to 3	**4 or more**	**1 to 3**	**4 or more**
Guaranteed investment contracts	75%	73%	50%	72%
Money market fund	28%	71%	19%	72%
Bond fund	13%	65%	8%	70%
Balanced fund	23%	41%	15%	42%
Diversified fund	32%	56%	19%	52%
Aggressive equity fund	27%	63%	18%	58%
Real estate fund	1%	5%	1%	7%
Company stock	20%	51%	41%	43%
Other investments**	21%	29%	15%	31%

* Includes section 401(k) and section 403(b) deferrals
** Often are indexed funds
Source: The Wyatt Company, 1990

ipant must be able to give investment instructions no less frequently than once within any three-month period, and as frequently for the least volatile of the three diversified investment categories as for the most volatile investment category. The standard would apply to accumulated balances, not just to new contributions.

The Wyatt survey showed the frequency with which the plans' participants could make investment changes. Fifty-three percent of the plans allowed changes at least four times a year, while 47 percent of the plans allowed changes fewer than four times a year. So, at least 47 percent of the plans would have to increase the availability of investment changes to qualify for 404(c) protection under the reproposal. MM

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Nicole Lurie, M.D., M.S.P.H.
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September 20, 1991

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David Larson, M.D. and Randall S. Fischer, E.M.T.
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September 27, 1991

CONTEMPORARY ISSUES IN DIALYSIS THERAPY

RECENT DEVELOPMENTS IN THE PROVISION OF RENAL REPLACEMENT THERAPY

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Wrapping Up an Eventful Year

Richard B. Tompkins, M.D.

I am grateful for and honored by the opportunity to have served as your president. My term, which is coming to a close, has been very busy, and the time has passed quickly. I have particularly enjoyed meeting with medical staffs and county medical societies throughout the state. Everyone has been extremely hospitable to me, and I will cherish the friendships I have made.

It has been an eventful year. The Health Care Access Commission report to the Legislature in January consumed a great deal of our organization's time. We had successes and failures in the process, which resulted in the passage of a bill and subsequent veto by our governor. The problems the commission addressed will not go away, however, and we must monitor state and federal access initiatives in the months ahead.

AIDS is another issue of major concern. The public is demanding assurance that patients are not being exposed to the HIV virus through contact with health care workers, and particularly, through contact with physicians. Physicians and health care workers, in turn, are concerned that they could be infected by patients. A number of groups are meeting to try to resolve this issue, including a task force of the Board of Medical Practice (formerly the Board of Medical Examiners), a task force of the dental board, and a coalition of health care providers—the Minnesota Medical Association among them. We will need to be closely involved in these activities to ensure a solution is found that is satisfactory to physicians as well as the public.

A year ago, the Clinical Laboratory Improvement Amendments were of pre-eminent concern. A massive letter-writing campaign by physicians led to withdrawal of the CLIA rules, demonstrating that we can influence the government if we band together and focus our efforts. The Health Care Financing Administration (HCFA) is preparing new rules—a process we must closely monitor.

"We can influence the government if we focus our efforts."

Currently, we are working to modify the Medicare fee schedule HCFA developed to implement the resource-based relative value scale. When I was in Washington, D.C., in mid-July, it was apparent that physicians' concerns were being heard very clearly by our legislators and by HCFA authorities. Again, this shows that we can make our concerns known and can help shape the policies that affect our medical practices.

This year has made me aware of the excellence of the MMA staff, whose expertise has helped us to foster effective relationships with legislators, state and federal agencies, community organizations, and our members. Our staff does not make policy decisions, rather it helps analyze problems and effectively carries out directions from the House of Delegates and Board of Trustees.

Dr. Paul Sanders has been an outstanding CEO. He has the respect of the staff, is an excellent and fair administrator, and has been an effective communicator with the public, physicians, and community groups.

Our general legal counsel, Mary Prentnieks, who recently joined our staff, has been superb. Her insightful analysis of laws, rules, and regulations has helped us immeasurably.

Mark Vukelich, who directs MMA communications, has effectively worked with the media on such difficult issues as health care access reform, HIV testing and reporting, and the recent "gag rule."

George Lohmer, chief financial officer and head of corporate services, capably oversees our financial status. He also has helped us resolve difficulties with our former insurance products administrator, and I expect we will soon see the benefits of changing administrators.

Roger Johnson, director of economics and government relations, and his staff have dealt admirably with state and federal legislators. They have the difficult task of analyzing complex rules and regulations so that we can make informed policy decisions. Roger also staffs our very effective AMA delegation.

I want to give special thanks to Pat Dedo, whose pleasant and efficient manner has helped make my year as president enjoyable, and I want to thank Lorrie Holmgren, Meredith McNab, and Sue Rodsjo, who helped me with the monthly President's Letter.

In closing, I congratulate Dr. Tom Stolee as he assumes the MMA presidency. He is extremely knowledgeable about issues of concern to Minnesota physicians. He is a wonderful spokesman on behalf of our physicians, and he will serve you all well. MM

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Alternative Medicine and American Religious Life

By Robert C. Fuller, Oxford University Press, 1989, 164 pages

Reviewed by Walter W. Benjamin, Ph.D.

Have you ever wondered why some of your most intelligent and sophisticated patients reject your recommendations for the cure or control of their disease? Why, during this age of technological brilliance, so many patients are captivated by medical cultism, personal testimony rather than scientific proof, and the bizarre rather than the empirical? If these questions have troubled you, "Alternative Medicine and American Religious Life" should be on your reading list.

Interest in the New Age movement exploded in the late 1980s. Led by such notables as Shirley MacLaine, thousands of Americans began eschewing traditional orthodoxies, both medical and ecclesiastical, seeking a wide range of self-help methods to achieve "wellness." Every year brings new therapeutic forms such as channeling, crystals, rolfing, shiatsu, psychic healing, herbal or vitamin therapies, and therapeutic touch.

Robert C. Fuller, professor of philosophy and religious studies at Bradley University in Peoria, Illinois, notes that America has always been surfeited with bizarre religious and medical movements. Indeed, the movements often have a symbiotic relationship. In the 19th century they were part of a larger attempt to preserve the fierce democratizing, anti-elitist spirit of Jacksonian America. Samuel Thomson, the founder of Thomsonianism (all disease is caused by cold and can be cured by heat), spoke for the founders of most sects when he said, "We seek to make every man his own physician." He claimed that the priest, the doctor, and the lawyer were all guilty of "deceiving the people."

Dramatic instances of sectarian medical movements—homeopathy, Grahamism, hydropathy, Christian Science, Swedenborgianism, mesmerism, phrenology, chiropractic, and osteopathy—were parallel expressions of periodic spiritual revivals. These movements supplied the physiological counterpart to the optimism and perfectionism of the 19th century. They eschewed the Cartesian and Enlightenment reductionism of a developing medical orthodoxy that saw only organic and material factors as causes of disease. The sick could better discover the healing arts by reading the Great Book of Nature than by perusing the musty books of *Materia Medica* in universities.

Medical nonconformists were successful, because, besides purgatives and emetics, allopathic or "regular" medicine had a modest knowledge of pharmacopoeia. Largely art rather than science, it had few arrows in its armamentarium quiver. Bleedings, sweatings, blisterings, and drugs aimed at inducing either vomiting or diarrhea often had but modest therapeutic benefit. The sectarians, on the other hand, linked their healing with a religious metaphysic. Some form of theosophy covered for the ignorance of the organic nature of disease. D.D. Palmer, the founder of chiropractic, held that the "Innate," or life force, arising in the brain was "a segment of that Intelligence that fills the universe." All diseases were due to a "lack of current of mental impulses" through nerves and tissues.

> "Fuller believes these alternative healing systems are expressions of unsatisfied spiritual hunger, especially among the educated and culturally 'sophisticated.' "

Fuller's treatment of contemporary holistic and psychic healing movements includes, among others, Norman Cousins, Bernard Siegel, Alcoholics Anonymous, Olga and Ambrose Worral, Eckankar, William Nolen, Dolores Krieger of therapeutic touch, and Eastern religious thought. He believes these alternative healing systems are expressions of unsatisfied spiritual hunger, especially among the educated and culturally "sophisticated." Their approach, he says, transforms the narcissistic structures of personality by empowering those who are well and by alleviating the blow to self-esteem that accompanies illness. Healing is a contemporary initiatory rite. There seems to be a desperate attempt, albeit a countercultural one, to locate divine immanence, whether in a rock crystal or in subtle bodily energy. Fuller writes, "Secularization has in no way detracted from Americans' capacity to envision their lives as in some way participating in a sacred reality."

Fuller's treatment is comprehensive, descriptive, and historical, but is overly sympathetic. He does not judge the motives of sectarian healers. That many were and are con artists, preying on the vulnerable, could be substantiated by talking with many physicians and pastors. For example, B.J. Palmer, son of the man who founded chiropractic, distributed mail-order degrees and made crass remarks that his reason for creating the vocation was to garner high fees. He died a multimillionaire. Jerome Rodale, the founder of *Prevention* magazine, recommended touching plants to "drain their health-giving electrical charges" into the body.

Fuller's book leaves many troubling questions unanswered: Why do so many of the educated elites distrust medical, scientific, and religious authority? What can physicians do to more effectively link "high tech" with "high touch"? Can a rapprochement between biblical "healing" and scientific medicine be accomplished without harming either? Can the medical profession retain its authority while giving greater autonomy to the patient? Are these sectarian groups the price we pay for an increasingly naked spiritual public square?

While Fuller doesn't offer all the answers, he does offer enlightening insights. He is an informed guide to what for many is a perplexing cultural movement. He believes patients' persistence in using alternative means of healing should be seen as attempts to retain elements of autonomy and spirituality. This much is sure: patients want physicians to respond to their human, spiritual, and social longings as well as their biological needs. MM

Walter Benjamin is a professor of applied ethics at Hamline University in St. Paul, Minnesota. His articles on biomedical and business ethics have appeared in many national journals.

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People and Places Making Medical News

People

University Regents' Professors

University of Minnesota pediatrician Paul Quie, M.D., was selected in June to be a regents' professor, the university's highest faculty honor. He is best known for his work with chronic granulomatous disease, which he helped identify in 1965. He also helped develop a drug that combats the immune deficiency associated with the disease.

Quie and political scientist Frank Sorauf will fill vacancies left by the retirements of cancer expert B.J. Kennedy, M.D., and astronomer Edward Ney.

Ramsey Presidents

James B. Dixon was officially named president of St. Paul-Ramsey Medical Center, and Terry W. Crowson, M.D., was named president of Ramsey Clinic at the meeting of the Ramsey HealthCare board of directors July 31. Ramsey HealthCare is the medical center's and clinic's parent organization.

Dixon had been serving as the medical center's interim president since the resignation of Marlene Marschall, who left Ramsey May 1 to become state health commissioner. Crowson had been serving as interim president since the death of former Ramsey Clinic president Luigi Taddeini last March.

Health Department Appointments

Minnesota Commissioner of Health Marlene Marschall announced two staff appointments at the Minnesota Department of Health (MDH) in July. Beverly Krogseng has been appointed to serve as assistant commissioner for the Bureau of Health Protection, and Christine Moore has been named director of Public and Legislative Affairs.

Krogseng was formerly the manager of Health Services at Unisys Corp. At MDH, she will be responsible for managing the Disease Prevention and Control Division, the Environmental Health Division, and the Public Health Laboratory Division.

Moore, who has been with MDH on temporary assignment since early this year, was formerly an assistant to House Minority Leader Bill Schreiber. In her new position, Moore will direct communications and be responsible for liaison with Gov. Carlson's administration and the state Legislature.

Local Doc Re-elected ACP Regent

Alvin L. Schultz, M.D., a Minneapolis endocrinologist and health executive, recently took office for a second term on the Board of Regents of the American College of Physicians. Schultz is senior vice president for medical affairs at Health One Corp. and a professor of medicine emeritus at the University of Minnesota, where he taught from 1952 until he retired in 1988. He was chief of medicine at Hennepin County Medical Center in Minneapolis for 23 years.

Group Health Director

James F. Hart, M.D., assumed new duties as associate medical director for Clinic Operations at Group Health, Inc. Hart was most recently the associate medical director for Quality and Utilization Management at Group Health.

United Hospital Foundation Award

James W. Reagan, chairman of the board and chief executive officer of the American National Bank and Trust Company in St. Paul, and noted St. Paul neuropsychiatrist Zondal Miller, M.D., are recipients of the 1991 Service to Humanity Award, which was presented by the United Hospital Foundation September 7.

Each year the foundation recognizes two individuals associated with United Hospital who have demonstrated dedication and leadership in improving the health and welfare of metropolitan St. Paul residents.

Reagan is a member of the United Hospital Foundation board of directors and has been actively involved in more than a dozen other civic and philanthropic organizations. Miller is a former chief of United's electroencephalographic lab and former chair of the Neurosciences Department at United. He has been a clinical professor in the Department of Neurology at the University of Minnesota since 1960.

Spine Society President

Charles D. Ray, M.D., F.A.C.S., became president of the North American Spine Society at its annual meeting August 3. Ray, associate director of the Institute for Low Back Care in Minneapolis, has been active as publications editor and chairman of continuing education since the society's inception. He is a practicing neurosurgical spine specialist and engineer, is president of CeDaR, Inc., and is a former vice president of Medtronic, Inc.

Places

Duluth Raising Scholarship Funds

The University of Minnesota-Duluth School of Medicine has set a long-term fund-raising goal that it hopes will allow it to become tuition-free, which would make it easier for the school's graduates to practice medicine in rural areas.

Because small-town doctors make less money than city doctors, they have a more difficult time paying the average $48,000 medical-school debt. UMD's goal is to raise enough money for 85 full scholarships—one for every student—to be awarded on the basis of financial need.

The fund-raising goal is possible to achieve because of the high demand for small-town doctors, said Ronald Franks, M.D., the school's dean. However, the first 10 scholarships might not be available before the turn of the century, he said.

Mayo Makes Top 10

U.S. News and World Report ranked the Mayo Clinic in Rochester as one of the 10 "best of the best" hospitals in the nation based on a survey of 965 physicians across the nation. Mayo was also rated the best in 12 specialty areas: cancer, cardiology, endocrinology, gastroenterology, gynecology, neurology, orthopedics, otolaryngology, psychiatry, rehabilitation, rheumatology, and urology. The only hospital with high ratings in more areas was the Johns Hopkins Hospital in Baltimore, Maryland, which had high ratings in 13 specialties.

Arthritis Program Moves to Abbott

The Arthritis Care Program, a former service of Metropolitan-Mount Sinai Medical Center, has moved to Abbott Northwestern Hospital. The program includes an evaluation clinic, a resource library, education forums, and a number of support groups. Paul Waytz, M.D., is the medical director, and Jenny Fransen, R.N., is the program director.

Diabetes Center Receives Contract

The American Dietetic Association (ADA) has awarded a two-year, $138,000 contract to the International Diabetes Center (IDC) in Minneapolis to study the cost effectiveness of practice guidelines for outpatient nutrition care by dietetic practitioners for Type II diabetes mellitus.

Senior investigators Marion Franz, R.D. (registered dietitian), Roger S. Mazze, Ph.D., and Richard Bergenstal, M.D., will carry out the study, which is one of the largest clinical research projects ever funded by ADA. In addition to offering a model for researchers investigating the impact of nutrition on other diseases, ADA expects this study to provide the first step toward building a strong case for nutrition services reimbursement.

FDA Seizes Breast Implants

The Food and Drug Administration impounded 500 breast implants July 30 at Bioplasty Inc., located in Roseville, Minnesota. The FDA said that although the implants were not known to be unsafe, they were not approved for marketing. Bioplasty was shipping them to doctors uninflated with a supply of gel, which the FDA had not reviewed or approved, said FDA spokesperson Don Aird.

FDA officials said Bioplasty had continued to make unproven claims about the implants, called Misti Gold, even after being warned to stop. It had claimed, for example, that its organic gel (which replaces silicone gel) does not block X-rays used to detect cancer and that the gel is processed better in the body than silicone gel when it leaks. Bioplasty, however, has not proven the claims.

Town Rewards Resident for Recruiting Doc

Springfield Community Hospital in Springfield, Minnesota, awarded town resident Kathy Pederson $10,000 for providing a lead in hiring a doctor. After working with five recruitment agencies for two years to find a fourth full-time physician, the hospital decided to ask the community to help solve the problem rather than pay professional recruiters $20,000 to $30,000 for finding a physician.

While teaching a seminar in June, Pederson learned that James J. Joyce, M.D., was leaving his practice in Ivanhoe, Minnesota. Pederson went immediately to Joyce's home and asked him to consider practicing medicine in Springfield.

ER Care in 20 Minutes or . . .

Doctors Hospital in Detroit, Michigan, has promised to see all emergency room patients within 20 minutes or the care will be free. The number of patients the hospital sees each day has increased 30 percent since it began the offer, said Lynn Kelley, chief operating officer. The hospital's guarantee was inspired by the 30-minute service guaranteed by Domino's pizza.

Socioeconomics

Federal Rules Limit 'Self-referrals'

The Department of Health and Human Services issued new rules in July to limit physician referrals of Medicaid and Medicare patients to medical labs and health care facilities in which the physicians have investments. The government believes such referral arrangements cost federal health care programs millions of dollars by causing overuse of medical services and decreased competition among providers.

Under the new rules, which took effect July 29, no more than 40 percent of a business may be owned by physicians or others in a position to refer patients, and no more than 40 percent of the revenue may come from investor referrals. Investors who break the rules may be subject to prosecution and exclusion from Medicare and Medicaid, but officials said it is unlikely they will take action against any party making good-faith efforts to follow the law.

New IR Health Care Task Force

House Minority Leader Terry Dempsey, IR-New Ulm, announced in July the formation of a House Independent-Republican Health Care Task Force to examine ways to make health care more affordable and accessible. Rep. Peggy Leppik will serve as chair of the 16-member task force, which will make recommendations to the 1992 Legislature.

"I'm excited about the work these legislators have volunteered to do this summer and fall," Dempsey said. "The Health Care Access Bill clearly missed the mark, but making sure Minnesotans have access to health care continues to be a big concern."

HMO Premium Increase

HMO premiums increased an average 16.9 percent in Minnesota last year, according to a study by the Citizens League. HMO enrollment in the state increased by 4.8 percent, up to 1,166,537, which is 26 percent of the state's population. Only three other states, California, Massachusetts, and Oregon, have HMO enrollments exceeding 25 percent of the population.

The study also found that Minnesota's HMOs had a record combined profit of $57 million last year. Also, more Minnesotans—at least 650,000—are getting health coverage through employers' self-insurance plans.

State to Use Insurance Fund

Minnesota's Commissioner of Commerce Bert J. McKasy has activated the state's insurance guaranty fund to reimburse almost 1,300 people with insurance from the bankrupt Midwest Life Insurance Company of Metairie, Louisiana. A Louisiana court recently ordered the company to stop making all benefit payments to policyholders, including 1,285 Minnesotans.

Minnesota law established the Life and Health Guaranty Association in 1977 to protect Minnesota policyholders from life and health insurance company failures. The first reimbursement checks should be ready in October.

Utilization Review Board Ready

The Utilization Review Accreditation Commission (URAC) board of directors announced in July that it is now accepting accreditation applications and is beginning to accredit utilization review (UR) firms.

URAC's objective is to encourage efficient and effective UR processes and to provide a method of evaluation and accreditation for UR programs. Through the development and promulgation of minimum industry standards, URAC's goal is to continually improve the quality and efficiency between UR firms and providers, payers, and consumers.

"UR firms applying for accreditation will be required to adhere to developed and published national standards. It is URAC's hope that 100 percent of the utilization review firms will apply for accreditation," said Robert J. Becker, M.D., chair of URAC's board of directors.

Law & Policy

New State Laws

The fine for not wearing a seat belt increased from $10 to $25 August 1 in accordance with a law passed by the 1991 Legislature. According to fatality statistics, 66 percent of people who died in Minnesota traffic accidents were not wearing seat belts or using child car seats. All drivers, front-seat passengers, and children age 4 to 10 are required to wear a seat belt, and children 3 and under must use child safety seats.

Under a good Samaritan law that also took effect August 1, you must offer help to a person who has been shot. Not helping could result in a prison sentence and up to $4,000 in fines. The person you help cannot sue.

Under another new law, people are less likely to be released from emergency centers for mental illness or intoxication before the 72-hour observation period is over. A court hearing is now required for early release of people who pose a danger to themselves or others.

Innovations

Angeion Laser Catheter

In a new procedure, physicians used a laser catheter developed by Minneapolis-based Angeion Corp. to perform the first percutaneous treatment of IHSS (idiopathic hypertrophic subaortic stenosis), a cardiovascular disease.

A 53-year-old woman underwent the procedure last week at St. Elizabeth's Hospital of Boston. The nonsurgical treatment involves threading a specially designed catheter through the femoral artery up to the left ventricle of the heart. Once the catheter has been affixed to the septal wall inside the heart, short bursts of laser energy are directed at the enlarged muscle tissue causing the obstruction. The laser energy is fired in small, precise doses to shrink the tissue and reduce the obstruction, increasing the amount of blood pumped through the heart.

"The patient is doing well and we expect to release her from the hospital in the next few days," said Jeffrey M. Isner, M.D., principal investigator for Angeion's clinical trials. "This procedure may offer an important alternative for patients suffering from IHSS," he said. Isner is chief of cardiovascular research at St. Elizabeth's and professor of medicine and pathology at Tufts University School of Medicine.

Medtronic Pacemaker Flaw

Medtronic, Inc., voluntarily warned doctors that 30,000 of its Minix pacemakers could contain a flawed circuit that causes the pacemaker to briefly stop functioning while being electronically programmed. So far, no problems have been reported. Medtronic does not consider the flaw life-threatening because the pacemaker would only stop temporarily while being adjusted at a doctor's office.

Medtronic officials said there is a 2 percent chance the pacemakers could fail, but the exact number could be larger, according the Food and Drug Administration. In May, Medtronic sent letters to doctors who have implanted the pacemaker, and it explained the problem in the *Medtronic Product Performance Report*, which is sent to about 30,000 doctors.

The alert involves all Minix pacemakers shipped between January 1989 and April 1991, when Medtronic's engineers found the defect. The problem involves Minix models 8340, 8341, 8341M, and 8342; the Minix ST models 8330, 8331, and 8331M; and the Micro Minix model 8360.

Medtronic is testing all Minix pacemakers in its possession for flawed circuits, said company spokesperson Dick Reid. The company has sought FDA approval for a replacement circuit, which it hopes to begin using this fall, he said.

Academy Endorses Artificial Heart Research

After a thorough review of the federal program to develop fully portable, permanent artificial hearts and mechanical assist devices, the National Academy of Sciences endorsed the program saying it would be a mistake to stop it. In 1988, the National Heart, Lung and Blood Institute, the program's federal sponsor, decided to stop the program, but Congress overruled the decision and commissioned the academy to conduct the review.

The Academy of Sciences said the devices could eventually be beneficial for up to 70,000 of the nation's 700,000 heart disease victims each year. Unlike the Jarvik-7 artificial heart, the new artificial hearts and ventricular assist devices are battery operated and would not need an external power source. The academy recommended continuing research through at least 1993.

FDA Says No to Alzheimer's Drug

A Food and Drug Administration advisory panel voted 8-0 against approving Tacrine, the first Alzheimer's drug proposed for FDA approval, saying the clinical tests were "an insufficient demonstration of clinical effectiveness." The panel did not decide whether patients should have access to the drug while its safety and efficacy are tested further.

The drug, developed by Warner-Lambert Co., showed moderate improvement in patients' abilities to recall words, but showed no improvement in objective evaluations by doctors, said panel members. The drug's side effects include liver damage in some patients.

Medical Research

Explaining Mysterious Thai Deaths

Ronald Munger, Ph.D., a former University of Minnesota researcher, has hypothesized that the reason why hundreds of young Thai men have died mysteriously in their sleep is a thiamine (vitamin B1) deficiency. Munger, an epidemiologist currently at the University of Iowa College of Medicine, has been investigating the strange deaths since the mid-'80s.

In a study of blood samples and electrocardiograms from subjects in a Thai refugee camp in Southeast Asia last year, Munger found that many refugees who had too little thiamine in their blood also had a high rate of specific rhythm-related EKG irregularity. However, Munger said thiamine deficiency is only a hypothesis and there "may be another element" involved. He also found a potassium deficiency in a large number of refugees, but found no correlation in the refugees between potassium deficiencies and EKG abnormalities.

The study, which appeared in the August 2 issue of *The Lancet*, was co-authored by Ronald Prineas, Ph.D., M.B.B.S., a former University of Minnesota researcher who is now at the University of Miami, and Richard Crow, M.D., a University of Minnesota heart specialist.

Epilepsy Drug Slows Crack Use

Crack-cocaine addicts in a Minneapolis study tended to use cocaine less frequently while taking a drug used to treat epilepsy, according to University of Minnesota medical researcher James Halikas, M.D. The average number of days the addicts used crack while taking the epilepsy drug decreased by 9 percent for the whole group and 22 percent for a subgroup that included subjects with higher levels of the epilepsy drug in their bloodstreams.

The study included crack addicts who were not interested in quitting but wanted the $235 for participating. Therefore, researchers believed the results were not affected by a desire to quit using crack. The addicts, all South Minneapolis men, took carbamazepine during half the 20-day double-blind study and a placebo during the other half. **MM**

A Calendar of Continuing Medical Education Courses

Provided through the MMA Medical Education Subcommittee on CME Resources. For assistance with scheduling meetings or for information on future medical meetings and CME courses at the state and national level, please contact the MMA office: 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414; 612/378-1875. Information for each entry is arranged by date; name of program; primary sponsor; location; contact person.

SEPTEMBER 1991

Sept. 4-7 **Annual Orthopaedic and Trauma Seminar** HCMC and Hennepin Faculty Associates; Hennepin County Medical Center, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Sept. 5 **Topics in Pediatric Emergency Medicine** Minneapolis Children's Medical Center; Massie Moos Auditorium Education Building, Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Kathy Ingerson, Minneapolis Children's Medical Center, 2525 Chicago Avenue South, Minneapolis, MN 55404; 612/863-5884.

Sept. 5-7 **Teaching Geriatric Medicine** Office of CME, University of Minnesota Medical School; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Sept. 6 **Annual Clinical Management of Osteoporosis** HCMC and Hennepin Faculty Associates; location to be announced. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Sept. 6-7 **Mayo Surgical Symposium** Mayo Clinic and Mayo Foundation; Mayo Clinic, Rochester, MN. CONTACT: Rita Kunz or Jan Fleck, Mayo Clinic, 200 1st Street SW, Rochester, MN 55905; 507/284-2509 or 800/323-2688.

Sept. 7 **Atherosclerosis: Beyond Cholesterol** Office of CME, University of Minnesota Medical School; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Sept. 7 **Ophthalmic Plastic Surgery Update** Phillips Eye Institute Center for Teaching & Research; Phillips Eye Institute, Minneapolis, MN. CONTACT: Mary Strazz, Phillips Eye Institute, 2215 Park Avenue South, Minneapolis, MN 55404; 612/336-5309.

Sept. 13-14 **Advanced Laparoscopic Abdominal Surgery Seminar** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, CME Office 14202, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

Sept. 13-15 **Surgical Medical Clinics for Primary Care** Office of CME, University of Minnesota Medical School; Grandview Lodge, Brainerd, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Sept. 19-20 **Annual Trauma and Critical Care Conference** HCMC and Hennepin Faculty Associates; Hennepin County Medical Center, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Sept. 19-20 **Practical Pediatrics** Children's Hospital of St. Paul; United Children's Conference Center, St. Paul, MN. CONTACT: Sue Hance, Health One CME, 2810 57th Avenue North, Minneapolis, MN 55430; 612/574-7895 or 800/347-3627.

Sept. 20 **Pain Management Strategies for Primary Care** HCMC and Hennepin Faculty Associates; Hennepin County Medical Center, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Sept. 20 **Prostate Seed Implantation: A Practical Course** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, CME Office 14202, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

Sept. 20-21 **American College of Surgeons Commission on Cancer** Cancer Management Course; Mayo Clinic Facilities, Rochester, MN. CONTACT: Dr. John Donohue or Dr. David Nagorney, Mayo Clinic, Department of Surgery, Rochester, MN 55905; 507/284-2644.

Sept. 20-21 **Nursing Home Medical Directors** Office of CME, University of Minnesota Medical School; Sheraton Midway Hotel, St. Paul, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Sept. 22-24 **International Conference on the Treatment of Sex Offenders** Office of CME, University of Minnesota Medical School; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Sept. 23-27 **Team Management of Diabetes Mellitus** International Diabetes Center; International Diabetes Center, Minneapolis, MN. CONTACT: Cindy Poppitz, International Diabetes Center, 5000 West 39th Street, Minneapolis, MN 55416; 612/927-3393.

Sept. 26-27 **Annual Autumn Seminar: Obstetrics and Gynecology** Office of CME, University of Minnesota Medical

Health One Medical Education

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September 19 & 20
PRACTICAL PEDIATRICS CONFERENCE
Sponsored by Children's Hospital
St. Paul Heart & Lung Conference Center

October 11
CARDIOLOGY CONFERENCE & JESSE E. EDWARDS, MD LECTURE
St. Paul Heart & Lung Conference

October 14 & 15
ADVANCED TRAUMA LIFE SUPPORT (ATLS) COURSE
St. Paul Heart & Lung Conference Center
8:00 a.m. - 5:00 p.m.

October 25 & 26
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School; Park Inn, Minneapolis, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Sept. 26-27 **Annual Mayo Clinic Update in Hepatology** Mayo Clinic and Mayo Foundation; Mayo Clinic, Rochester, MN. CONTACT: Rita Kunz or Jan Fleck, Mayo Clinic, 200 1st Street SW, Rochester, MN 55905; 507/284-2509 or 800/323-2688.

Sept. 27 **Annual Contemporary Issues in Dialysis Therapy** HCMC and Hennepin Faculty Associates; Sheraton Midway Hotel, St. Paul, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Sept. 27 **Thrombolytic Therapy in Acute MI** Abbott Northwestern Hospital; Minneapolis Heart Institute, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

Sept. 27 **Cardiac Arrhythmias** Office of CME, University of Minnesota Medical School; location to be announced. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Sept. 27 **Oncology Conference** The Duluth Clinic, Ltd.; Fitger's Spirit of the North Theatre, Duluth, MN. CONTACT: Barbara Jablonski, CME Manager, 400 East Third Street, Duluth, MN 55805; 218/725-3816.

Sept. 27-28 **Sexual Attitude Reassessment Seminars (SAR)** Program in Human Sexuality; Holiday Inn Metrodome, Minneapolis, MN. CONTACT: SAR Coordinator or Secretary, Program in Human Sexuality, FMC Building, 1300 South Second Street, Minneapolis, MN 55454; 612/625-1500.

Sept. 27-29 **Update in Cardiovascular Diseases** Mayo Clinic and Mayo Foundation; Mayo Clinic, Rochester, MN. CONTACT: Rita Kunz or Jan Fleck, Mayo Clinic, 200 1st Street SW, Rochester, MN 55905; 507/284-2509 or 800/323-2688.

OCTOBER 1991

Oct. 2-4 **Fourth International Symposium on Biliary Stone Therapy** Mayo Clinic and Mayo Foundation; Mayo Clinic, Rochester, MN. CONTACT: Rita Kunz or Jan Fleck, Mayo Clinic, 200 1st Street SW, Rochester, MN 55905; 507/284-2509 or 800/323-2688.

Oct. 2-4 **Internal Medicine Review: Cardiology, Hematology, Endocrinology** Office of CME, University of Minnesota Medical School; Mayo Memorial Auditorium, Minneapolis, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Oct. 3-4 **Perinatal Challenges of the Nineties** Minnesota Perinatal Organization; Radisson Hotel, Duluth, MN. CONTACT: Barb Midtaune, MPO Coordinator, 3300

Oakdale Avenue North, 3E Perinatal Center, Minneapolis, MN 55422; 612/520-1570.

Oct. 3-4 **Annual Forensic Science Seminar** HCMC and Hennepin Faculty Associates; Hennepin County Medical Center, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Oct. 4 **Minnesota Gerontological Society's Fall Conference** Minnesota Gerontological Society; Sheraton Park Place Hotel, Minneapolis, MN. CONTACT: Monica Carlson, 612/932-5041; Jeanne Bader, 612/624-3904; or Ann Strelow, 612/520-0210, MGS Program Comittee co-chairs, Courage Center, 219 Pioneer Building, St. Paul, MN 55101.

Oct. 4 **Death and Dying: The Medical/Legal Dilemma, An Update on the Minnesota Perspective** Hennepin County Medical Society and Hennepin County Bar Association; location to be announced. CONTACT: Nancy Bauer or Laura Collins, Hennepin County Medical Society; 612/623-3030 or 800/882-7999.

Oct. 4-5 **Cutaneous Laser Surgery** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, CME Office 14202, Abbott Northwestern Hospital, Minneapolis, MN 55407; 612/863-5461.

Oct. 5 **The Business of Medicine—Fourth Annual Resident Recruitment Fair** Health One; United/Children's Conference Center, St. Paul, MN. CONTACT: Sue Hance, Health One CME, 2810 57th Avenue North, Minneapolis, MN 55430; 612/574-7895 or 800/347-3627.

Oct. 8 **Biofeedback for Colorectal Disorders** Office of CME, University of Minnesota Medical School; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Oct. 8 **Ramsey Research Conference** St. Paul-Ramsey Medical Center; St. Paul-Ramsey Medical Center Amphitheater, St. Paul, MN. CONTACT: Bonnie Young, 640 Jackson Street, St. Paul, MN 55101; 612/221-3992.

Oct. 9-12 **Colon and Rectal Surgery** Office of CME, University of Minnesota Medical School; Mayo Memorial Auditorium, Minneapolis, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Oct. 11 **Annual Advances in Geriatric Care** HCMC and Hennepin Faculty Associates; Hennepin County Medical Center, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Oct. 11 **Current Clinical Cardiology & the 10th Annual Jesse E. Edwards Lectureship** St. Paul Heart Clinic/Health One

CONTINUING MEDICAL EDUCATION
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Fall-Spring Conference Schedule

Mark your calendar now for these upcoming conferences:

1991	
October 18	Exploring the Interface Between Asian and Western Health Care Practices, St. Paul
October 24-25	Emergency Medicine for Primary Care Physicians, St. Paul
November 14-16	Primary Care Medicine, St. Paul
November 19	Advanced Burn Life Support Pre-hospital, St. Paul
November 20	Advanced Burn Life Support Pre-hospital, St. Paul
November 21-22	Annual Trauma Conference, St. Paul
December 5-7	Cardiopulmonary Medicine, St. Paul
1992	
February 7	Domestic Violence: Assessment & Plan for Physician Action, St. Paul
February 14	Burn Care Today, St. Paul
March 12-13	Family Practice Update, St. Paul
March 20	Occupational Medicine Update, St. Paul
March 26-27	Critical Care: Practical Approaches & Case Discussions, St. Paul
April 2-3	Ob/Gyn Update, St. Paul
April 3	ENT Update, St. Paul

Information and Registration

Continuing Medical Education, St. Paul-Ramsey Medical Center,
640 Jackson Street, St. Paul, MN 55101; Phone 612/221-3992.

CME
640 Jackson Street
St. Paul, MN 55101
(612) 221-3992

RAMSEY

CME; United Children's Conference Center, St. Paul, MN. CONTACT: Sue Hance, Health One CME, 2810 57th Avenue North, Minneapolis, MN 55430; 612/574-7895 or 800/347-3627.

Oct. 11-12 **Adolescent Sexuality: Issues for the 1990s** Office of CME, University of Minnesota Medical School; Holiday Inn Downtown, Minneapolis, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Oct. 11-12 **Endoscopic Sinus Surgery** Office of CME, University of Minnesota Medical School; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Oct. 11-12 **Advanced Laparoscopic Abdominal Surgery Seminar** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, CME Office 14202, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

Oct. 12 **Pulmonary Update for Primary Care Physicians** Mayo Clinic/Mayo Foundation; Mayo Clinic, Rochester, MN. CONTACT: Rita Kunz or Jan Fleck, Mayo Clinic, 200 1st Street SW, Rochester, MN 55905; 507/284-2509 or 800/323-2688.

Oct. 14-15 **Advanced Trauma Life Support (ATLS)** Health One; United Children's Conference Center, St. Paul, MN. CONTACT: Sue Hance, Health One CME, 2810 57th Avenue North, Minneapolis, MN 55430; 612/574-7895 or 800/347-3627.

Oct. 14-18 **Radiology 1991: Cardiovascular and Interventional Radiology** Office of CME, University of Minnesota Medical School; Hyatt Regency Hotel, Minneapolis, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Oct. 18 **Current Topics in Neurology & Psychiatry** HCMC and Hennepin Faculty Associates; Minneapolis Athletic Club, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Oct. 18 **Antimicrobials in the '90s: Expanded Options for Effective Patient Care** Office of CME, University of Minnesota Medical School; University of Minnesota Health Sciences Medical Center, Minneapolis, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Oct. 18 **Exploring the Interface Between Asian and Western Health Care Practices** St. Paul-Ramsey Medical Center; Holiday Inn East, St. Paul, MN. CONTACT: Bonnie Young, 640 Jackson Street, St. Paul, MN 55101; 612/221-3992.

Oct. 18-19 **Front Line Neurology: Primary Care Management of Patients with Neurological Problems** Abbott Northwestern Hospital; Marriott City Center, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

Oct. 18-19 **Lasers in Orthopedic Surgery** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, CME Office 14202, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

Oct. 19 **Fifth Annual Tutorial in Pediatric Cardiology for the Primary Practitioner** The Children's Heart Clinic; Minneapolis Children's Medical Center, Minneapolis, MN. CONTACT: Harold Katkov, M.D., The Children's Heart Clinic, 2545 Chicago Avenue, Suite 106, Minneapolis, MN 55404; 612/871-4660.

Oct. 20 **ENT for Primary Care Physicians** Mayo Clinic/Mayo Foundation; Leighton Auditorium, Mayo Clinic, Rochester, MN. CONTACT: Rita Kunz or Jan Fleck, Mayo Clinic, 200 1st Street SW, Rochester, MN 55905; 507/284-2509 or 800/323-2688.

Oct. 24-25 **Emergency Medicine for Primary Care Physicians** St. Paul-Ramsey Medical Center, Holiday Inn East, St. Paul, MN. CONTACT: Bonnie Young, 640 Jackson Street, St. Paul, MN 55101; 612/221-3992.

Oct. 25 **Thrombolytic Therapy in Acute MI** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

Oct. 25-26 **Fourth Annual New Ulm Fall Seminar** Sioux Valley Hospital/Health One; Sioux Valley Hospital, New Ulm, MN. CONTACT: Sue Hance, Health One CME, 2810 57th Avenue North, Minneapolis, MN 55430; 612/574-7895 or 800/347-3627.

Oct. 25-26 **Symposium on Facial Malignancy & Reconstruction** Office of CME, University of Minnesota Medical School; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

NOVEMBER 1991

Nov. 1 **Upper Midwest Sleep Society Meeting** HCMC and Hennepin Faculty Associates; St. Paul Hotel, St. Paul, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Nov. 1 **Primary Care Management of Patients with Implantable Defibrillators** Abbott Northwestern Hospital; location to be announced. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

Physician Opportunities and Miscellaneous Listings

Classified rates are 50¢ a word. Minimum monthly charge is $10; with box number $2 additional. Ads will not be accepted by phone.

- Placement of ads must be made six weeks before the date of publication (i.e., September 15 for November ad). Please send ad requests to *Minnesota Medicine,* 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414.
- The publisher reserves the right to decline or withdraw advertisements. The publisher is not responsible for clerical or typographical errors and is not permitted to divulge the identity of advertisers who have replies sent to box numbers.
- Cancellation of ads must be made by the first of the month preceding month of issue.

Family Physician wanted to join four physicians, one nurse practitioner, FP group practicing in two offices in Pine River and Pequot Lakes. Competitive salary. No ob. No HMOs. Rural area with outdoor recreational opportunities. Rotate call; adequate free time. Call or write: Gary G. Kohls, M.D., Pine and Lakes Clinics, PO Box 88, Pine River, MN 56474; 218/587-4416. (R)

Family Physician: Dynamic 14-physician, two-PA, three-office, single-specialty practice in northwest Minneapolis suburbs seeking additional associate, BC/BE; ob available. Competitive salary, full benefits, reasonable call and hospital rounds schedule. Contact: Dr. Diane Shuck, 612/537-8405; or Mark Pottanger, 612/537-8475, Northwest Family Physicians. (*R)

Wausau Medical Center is seeking BC/BE individuals in the following specialties: cardiology, dermatology, family practice, infectious disease, obstetrics/gynecology, pediatrics, and rheumatology. Modern clinic facility located across the street from modern, 300-bed hospital. Full partnership in three years. Easy access to lakes, woods, and mountains. Write (including CV) to: D.K. Aughenbaugh, M.D., Medical Director, Wausau Medical Center, 2727 Plaza Drive, Wausau, WI 55401. (R)

Johnson & Falls Search Associates represents new practice opportunities locally and nationally. Working exclusively in the area of physician search, we are committed to expanding your professional options while meeting our clients' needs. There are no fees to candidates. For a thorough, confidential search, send CV or call: Liz Johnson or Pat Falls, Johnson & Falls Search Associates, 34 Forest Dale Road, Minneapolis, MN 55410; 612/922-0237. (R)

Bemidji, Minnesota: Excellent opportunities for well-trained physicians. We are seeking BC/BE physicians in family practice, ophthalmology, pediatrics, and otolaryngology to join a young 30-physician multispecialty group practice located in northern Minnesota. Competitive salary guarantee plus incentive first year and excellent benefits. An excellent opportunity for a physician to enjoy practice in the center of hunting, fishing, and clear air. Please respond with CV to: C.C. Lowery, Administrator, Bemidji Clinic-MeritCare, 1233 34th Street NW, Bemidji, MN 56601; 218/751-1280. (R)

Family Practice: Physicians seeking a BC/BE family practice physician for the Norway, Michigan, service area. The physician would have the option of joining one of the existing practices and/or setting up his/her own practice. Anderson Memorial Hospital is a part of Dickinson County Hospitals and has a service-area population of over 45,000. Contact: Dr. Paul Hayes' office, 906/563-9255, or Dr. William Gladstone's home, 906/563-8743. Anderson Memorial Hospital, Main Street, Norway, MI 49870; 906/563-9243. 2-9/91

Internist to join a progressive 13-physician group practice. Rural college town 30 miles from St. Paul, Minnesota. New clinic and constructing new hospital. Contact: Robert B. Johnson, M.D., River Falls, WI 54022; 715/425-6701. (*9/91-R)

Urgent Care/Primary Care physicians for over 90 group positions in metropolitan Phoenix/Tucson, Arizona. Excellent compensation/partnership opportunities. Other quality positions nationwide. Send CV or call: Mitch Young (MM), PO Box 1804, Scottsdale, AZ 85252; 602/990-8080. (*1/90-R)

Mankato: FP partner to join four board-certified family physicians, ages 34-43, in fast-growing, full-range practice. Ob optional. Population 40,000+. Seventy miles to Twin Cities. Four colleges nearby. Subspecialty consultation readily available on hospital staff. Academic appointment available. Call: Tony Giefer, M.D., 507/387-8231. (8/91-R)

Family Physicians: Well-established south suburban Minneapolis family practice group seeks associates part/full time to staff day clinic. Excellent call schedule, salary, and fringe benefits. Also seeking locum tenens to staff PT/FT Urgent Care Centers and/or day clinic. Contact: Administration, Family Physicians, P.A., 612/435-4125, or send inquiries to Suite 100, 14050 Nicollet Avenue South, Burnsville, MN 55337. (*9/89-R)

Mankato Clinic, Ltd. is seeking BC/BE physicians in the following specialties: dermatology, invasive cardiology, ob/gyn, oncology/hematology, pulmonary medicine, vascular surgery, family practice, pediatrics, and general internal medicine. The Mankato Clinic is a 43-doctor multispecialty group practice in south-central Minnesota with a trade area population of +200,000. Guaranteed salary first year, in-

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centive thereafter with full range of benefits and liberal time off. For more information call: Roger Greenwald, Administrator, or Dr. B.C. McGregor, 507/625-1811, or write: 501 Holly Lane, Mankato, MN 56001. (6/90-R)

Family Practitioner to join a progressive 13-physician group practice. Rural college town 30 miles from St. Paul, Minnesota. New clinic and constructing new hospital. Contact: Robert B. Johnson, M.D., River Falls, WI 54022; 715/425-6701. (*9/91-R)

BC/BE Family Practice and Ob/Gyn Physician: Excellent opportunity to join well-established, progressive, 20-physician multispecialty group located in an economically sound community of 20,000 (drawing area of 40,000), 65 miles south of the Twin Cities. Full membership after one year. Competitive salary and fringe benefits package. Contact: Ed Durst, M.D., or Terry Tone, Administrator, 134 Southview, Owatonna, MN 55060; 507/451-1120. (8/91-R)

Forest Lake Doctor's Clinic is seeking a BC/BE family physician, pediatrician, ob/gyn, and internist to join 10-physician multispecialty group. Located 25 miles north of Minneapolis-St. Paul in progressive community with excellent schools, many beautiful lakes, recreational activities, golf, fishing, boating, skiing. Local hospital directly across street. Contact: Dr. Harvey J. Frank or Dr. Doug Sill, 121 SE 11th Avenue, Forest Lake, MN 55025; 612/464-7100. (4/90-R)

Family Physician: Tired of call? Want predictable hours? Full-time physician needed to work three days per week in our outpatient family practice clinics. One position open immediately. Salary plus bonus and benefits package including malpractice insurance. Contact: Todd Patton, M.D., or William Wenmark, CEO, c/o NOW Care Medical Centers, 13031 Ridgedale Drive, Minneapolis, MN 55343; 612/593-9010. (5/90-R)

Downtown Office Space for Rent: Physician in the Medical Arts Building, 825, wishes to sublet to another physician on a part-time basis for the purpose of sharing overhead expenses. Call: 612/370-0553. (6/90-R)

Community Health Center, Inc. / North Shore Lake Superior is currently seeking BC/BE physicians in the following specialties: family practice and general internal medicine, to join busy practice in primary care clinic of four family physicians with consulting psychiatrist, ophthalmologist, general surgeon, and orthopedic surgeon. Advantages of living in a small town while being only 22 miles from Duluth metro area. Contact: Lee Cohen or Steve Bjorum, Administrator, Community Health Center, Inc., 1010 Fourth Street, Two Harbors, MN 55616; 218/834-7207. EOE/AA. (8/91-R)

Olmsted Medical Group is currently seeking BC/BE physicians in the following specialties: general surgery, family practice, emergency medicine, pediatrics, and ob/gyn. Excellent opportunity for well-trained physicians to join a 50+

physician multispecialty group in an established, progressive practice. In addition to the recently expanded main office in Rochester, Minnesota, the group operates eight branch offices in southeastern Minnesota. Affiliate hospital recently underwent complete renovation and expansion. Competitive salary/benefits package includes malpractice insurance, flexible benefits plan, 401(k) and profit sharing, and relocation assistance. Send CV to: Olmsted Medical Group, Attn: Susan Schuett, 210 Ninth Street SE, Rochester, MN 55904. (8/90-R)

Lake City, Minnesota: Family physician BC/BE needed to join three other FPs in progressive, growing practice on Lake Pepin/Mississippi River in southeastern Minnesota. Excellent first-year salary/benefits in a scenic community with multiple recreational opportunities. Contact: D.D. Pflaum, M.D., 303 South Washington, Lake City, MN; 612/345-3318. (8/90-R)

Family Practice—Hospital-sponsored Clinic Opportunity: Dynamic, growth-oriented hospital in beautiful north-central Wisconsin is seeking family physicians to join a growing practice in a new facility. The administrative burdens of medical practice will be minimized in this hospital-managed clinic. The hospital has committed to an income and benefits package that is significantly higher than similar opportunities. Package includes base income, incentive bonus, malpractice, disability, signing bonus, and student loan reduction/forgiveness program. All relocation costs will be borne by the hospital. Please contact: Kari Wangsness, Associate, The Chancellor Group, Inc., France Place, Suite 920, 3601 Minnesota Drive, Bloomington, MN 55435; 612/835-5123. (12/90-R)

Family Physician BC/BE: Immediate opportunity to join family practice clinic in Minneapolis. Practice will allow part-time or full-time schedule. Competitive salary and benefits. Interested candidates send CV to: Jean Burns, 10501 Wayzata Blvd., Minnetonka, MN 55343; 612/544-2605. (3/91-R)

Wisconsin: 120-physician multispecialty clinic in the Fox River Valley of northeastern Wisconsin desires two BC/BE pediatricians to join department of 15 BC/BE pediatricians. Excellent compensation and benefits package, leading to shareholder status after two years. The community offers a superb recreational, cultural, and family environment in which to practice. For information please call or write: Howard Kidd, M.D., La Salle Clinic, 411 Lincoln Street, Neenah, WI 54956; 414/727-4276. (3/91-R)

Family Physician wanted to join three board-certified M.D.s in well-established, expanding group practice. Weekend ER coverage. No buy-in. Financial package hard to beat. Enjoy a progressive, rural city within easy reach of St. Cloud and Minneapolis. Contact: Dr. Jim Mohs, Melrose Clinic, 603 West Main Street, Melrose, MN 56352; office, 612/256-4228; home, 612/256-3488. (4/91-R)

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Family Practitioner: Community of 2,000, 50 miles northeast of Minneapolis/St. Paul, seeks additional family practitioner. Located on the St. Croix River and Minnesota border. Practice consists of 13 family practitioners, two internists, two general surgeons, and one orthopedic surgeon. Many specialists available on a part-time basis. Attached to a 90-bed hospital with comprehensive services available. Very stable medical group with pleasant working conditions in a continuous growth mode. Guaranteed first-year salary with second-year partnership. Fringes include excellent retirement package and auto. Contact: Lenny Libis, Administrator, at 715/483-3221. 6-10/91

Mora, Minnesota—Family Physician needed to join a seven-member FP group. We are a well-established, expanding practice and offer competitive salary and benefits package with partnership available. We have JCAHCO-accredited hospital, on-site consultations from numerous specialty disciplines, satellite offices located in Pine City and Hinckley. Mora is a progressive community located 65 miles north of the Twin Cities with an excellent school system and many cultural and recreational opportunities within easy access. Contact: Larry J. Brettingen, M.D., 224 Seventh Street, Mora, MN 55051; 612/679-1340. 6-10/91

Physician: BC in emergency medicine, experienced in FP (no ob), and licensed in Minnesota, South Dakota, Wisconsin, available for locum tenens coverage. Reply to: Minnesota Medicine (850), 2221 University Avenue SE, Suite 400, Minneapolis, MN 55414. (5/91-R)

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Family Physician: Part-time positions staffing Convenience Care Medical Center. Competitive hourly salary plus malpractice insurance. Call or write: Bob Kantor, M.D., Grove Square Convenience Care, 13800 83rd Way, Maple Grove, MN 55369; (hm) 612/476-0875, (wk) 612/420-5279. 4-9/91

Urgent Care: Marshfield Clinic is seeking physicians trained and certified in primary care (family practice, internal

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medicine, pediatrics, or emergency medicine) to join newly developing urgent care practice in Marshfield, Wisconsin. Specialists representing all branches of medicine and surgery provide support care and services. A full-time physician will work 45-60 hours per week, usually four 12-hour days, including periodic weekends and holidays. Opportunities exist to combine this practice with an ER practice if desired. Marshfield was recently designated by *American Demographics* as one of the best small cities in the Midwest and America. Wisconsin offers a wonderful four-season, recreation-oriented lifestyle, and this position with fixed hours will afford the leisure time to enjoy it. Compensation includes a competitive salary along with one of the finest fringe benefits packages in the country. If you would like to combine professional excellence with personal satisfaction and this opportunity sounds interesting to you, please send CV and references to: David L. Draves, Director, Physician Staffing, 1000 North Oak Avenue, Marshfield, WI 54449; or call: 800/826-2345, Ext. 5376. *4-9/91

Internal Medicine, Pediatrics, and Dermatology practice opportunities available at the Faribault Clinic. The Faribault Clinic is a multispecialty group practice of 19 physicians. Faribault is located 50 miles south of Minneapolis on I-35. For more information contact: Ray W. Wood, M.D., or Ken Smith, Administrator, 924 NE First Street, Faribault, MN 55021; 507/334-3921. (4/90-R)

Stillwater: Multispecialty group with emphasis on primary care seeking BC/BE family physician and internist. Scenic location with excellent school system, supportive medical community with strong local hospital, competitive salary and benefits. Send CV to: Jon Petersen, St. Croix Valley Clinic, 921 Greeley, Stillwater, MN 55082; 612/439-2215. (6/91-R)

Wisconsin: Third BC/BE obstetrician/gynecologist needed to join stable, progressive, primary-care-based HMO/group practice in university town of 60,000 near Minneapolis/St. Paul. Excellent quality of life and outstanding recreational area. Competitive salary and fringe benefits. Contact: Stuart R. Lancer, M.D., Medical Director, Group Health Cooperative, PO Box 3217, Eau Claire, WI 54702-3217; 715/836-8552. *3-9/91

Family Physician wanted to join five-physician, two-P.A., two-site family practice group in St. Anthony and Shoreview. Ob available. Competitive salary, benefits package, and call schedule. Contact: Gerald Pitzl, M.D., Silver Lake Clinic PA, 612/788-9251. (7/91-R)

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- Family Practice with interest in Occupational Health
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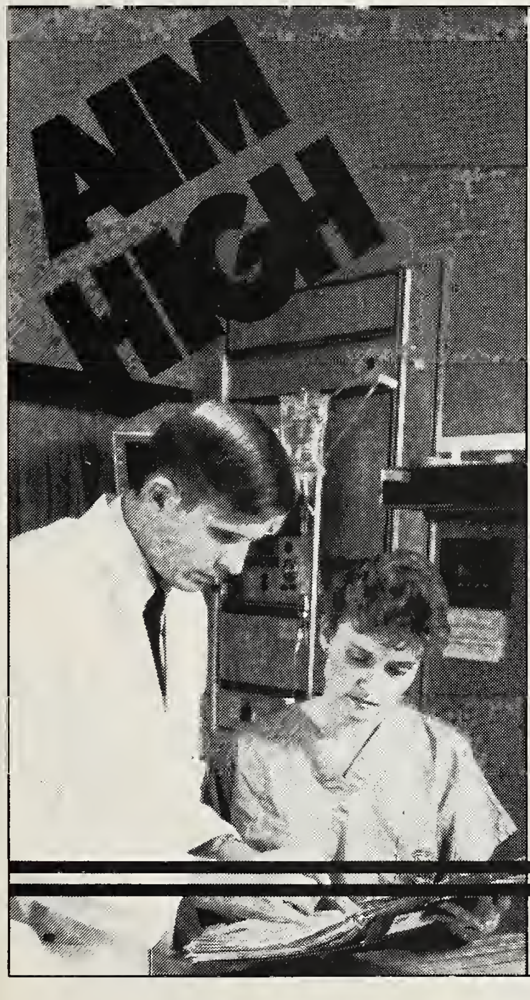

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OCTOBER 1991

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Cover illustration by Carl Wesley of Minneapolis.

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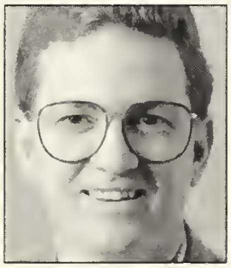

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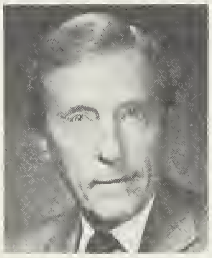
Fighting AIDS with Reason and Cooperation

Edmund C. Burke, M.D.



"We must increase our efforts to educate teens about AIDS."

As public anxiety rises to near hysteria, organized medicine must maintain a cool head. Recently, two Minnesota physicians reported they had AIDS, and patients were alerted to the need for HIV testing. Already concerned over a Florida dentist who apparently transmitted HIV to five patients, the public became acutely aware of the possibility of contracting HIV from health care workers.

As physicians, we realize that the public is overreacting. Again and again we are reminded that the risk of HIV transmission from health care worker to patient is almost nonexistent, but the public is nonetheless frightened. This month's feature story (page 18) addresses the public's fears, reminding us that physicians must compassionately deal with patients' concerns, no matter how irrational they appear. Meanwhile, this month's Perspectives piece (page 15) puts the risk of HIV transmission into global perspective. Readers are asked to look beyond Minnesota and see that very little HIV infection has entered our state compared with New York, California, and other parts of the world. We must concentrate our efforts on the true sources of risk, says James M. Shultz, a former behavioral epidemiologist at the Minnesota Department of Health. Mandatory testing of all health care workers "must be regarded as inexcusable squandering of scarce resources for AIDS," he writes.

While AIDS is less of a problem in Minnesota than in other parts of the world, we certainly cannot ignore it. In fact, the relatively small number of AIDS cases is one reason why many Minnesotans fail to perceive themselves as being at risk of contracting AIDS, even if they are sexually active with more than one partner or with partners they don't know well. This is an especially dangerous oversight as the number of heterosexually transmitted AIDS cases continues to increase. In this month's clinical article (page 32), Keith Henry, M.D., tells us that an estimated 80 percent of the world's HIV-1 infections will be from heterosexual transmission by the year 2000. Henry outlines a case of male-to-female transmission after minimal vaginal exposure, demonstrating how easily AIDS can be contracted through heterosexual intercourse. Physicians should be aware, he says, that they "may encounter HIV-1 infected patients outside groups they traditionally have perceived to be at risk."

One unexpected group of HIV-infected patients that we should be particularly concerned about is teenagers, who represent a growing number of AIDS cases in the United States. A recent Johns Hopkins survey quoted in *Time* magazine found that 61 percent of boys and 47 percent of girls at one U.S. high school had had sexual intercourse by the eighth grade. The speed at which AIDS is spreading among teenagers is frightening; while the number of cases is small, it has been doubling every 14 months. Each year the number of teens infected with a sexually transmitted disease rises, with three million cases reported last year. STDs and HIV infection travel together. Individuals who acquire an STD are obviously not practicing safe sex and are at risk for contracting HIV. We must increase our efforts to educate teens, as well as the general public, about AIDS and the importance of abstinence or safe sex.

Physicians are faced with an overwhelming array of issues and questions when dealing with AIDS, including several legal questions. In this month's Medicine Law and Policy article (page 37), MMA's general legal counsel discusses such legal issues as whether a physician may refuse to treat an HIV-positive patient and whether informed consent is required before HIV testing. The author reminds us that interpretations of laws regarding AIDS are not clear-cut and are likely to change with future legislation.

AIDS can be an overwhelming issue, but Minnesota is fortunate to have several agencies physicians can turn to. Dr. Henry and Holly Melroe have compiled a resource list (page 34) of agencies that can provide information over the phone or can make referrals. I recommend you use this list to keep up-to-date on the latest AIDS information, and I hope you will use this issue of *Minnesota Medicine* as a resource. Although AIDS is a serious problem in Minnesota, we should appreciate that it is a less drastic problem here than in other parts of the world—but we must not become complacent. Only through cooperation and serious effort can we overcome this deadly disease. MM

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OCTOBER 1991
Easing the Public Fear
PHYSICIANS WITH AIDS

Life After Managed Care—in Oklahoma City

A year ago I resigned as editor-in-chief of *Minnesota Medicine*, and Dr. Edmund Burke took over my duties. May I say you've done a fine job, Dr. Burke. I wait for each issue with anticipation. Your editorials have been well-crafted, and I'm pleased you've retained the regular features of Face-to-Face interviews, the Perspectives essays, clinical papers, articles on policy matters, pieces on medical law, and a business section.

I'm writing this letter to give Minnesota physicians a perspective on what it's like to practice in another state. I've lived and practiced in Oklahoma for a year now. I've enjoyed the experience, but practice here differs from practice in Minnesota in many ways.

- To begin with, practice is much less group-oriented in Oklahoma. The biggest group practice here has 95 members, and the second biggest has 38 members. By contrast, there are 10 group practices of 200 or more members in the Upper Midwest within 200 miles of the Twin Cities.
- With less group practice, it logically follows that you encounter a lot fewer large, vertically and horizontally integrated health care corporations. About a dozen health care corporations—Medica, Blue Cross and Blue Shield, Group Health, MedCenters, Park Nicollet, Life Span, Fairview, Health One, Methodist, and HealthEast—dominate the medical landscape in the Twin Cities. Here practice is much more fragmented, with no multihospital systems and no large HMOs or PPOs.
- Managed care is in its infancy here, with about 10 to 15 percent market share compared with 90 percent or so in the Twin Cities. But rumblings of change exist, and I can see many of the changes evolving here that hit the Twin Cities in about 1975. Also, I should mention, you don't have people like Paul Ellwood, Walter McClure, or other activist-leaders of multinational, home-headquartered corporations to drive the system toward managed care. Also, as a rule, physicians are much too occupied with their practices to become physician executives.
- Solo and two-physician practices remain the rule rather than the exception here. As a rough guess, I would say about 75 percent of solo practitioners and specialists are in one- to two-physician practices. But solo practitioners are beginning to feel the heat of Medicare and managed care discounting here, and it's clear they are seeking organizational alliances to make their practices more efficient and to preserve their incomes.
- Medical technology is driving the system here, just as it does in the Twin Cities. About as many open-heart procedures are performed here as in the Twin Cities; CAT scanners and MRI devices are proliferating; and the number of laparoscopic cholecystectomies has exploded since I've been here. I estimate about 80 percent of gallbladder removals are done through the laparoscope.

On a more personal note, I'm enjoying myself professionally and personally in Oklahoma City. I'm practicing as a full partner in a 250-bed hospital and a private laboratory. I've been surprised that hospital administrators and physicians alike here welcome and appreciate my knowledge of the dynamics of managed care. As a consequence, I've been busy helping organize, incorporate, plan, and lead a physician-hospital organization. Oklahoma City is 800 miles south of the Twin Cities as the crow flies. You can play golf 12 months a year here, and you can swim in your private pool for about 10 months. I like the early springs and late falls.

Do I miss Minnesota? You bet I do. I miss my friends, I miss the pristine snows of early winter, I miss the sky blue waters, I miss the arts, and I miss the Minneapolis Club. But I relish my new life, too. There is life after a first career, after managed care, and outside of organizational medicine.

Richard L. Reece, M.D.
Oklahoma City, Oklahoma

Early Childhood Screening

The Minnesota Legislature has revised the Early Childhood Screening (ECS) program. Guaranteeing young children are healthy, well-equipped, and ready for learning is a high priority. Now it is a mandate for parents to have their children participate in Early Childhood Screening, preferably around age 4. The dates and results of screening will be checked when the child enrolls in public school, much like immunization records are currently reviewed by elementary school staff.

As an alternative to the school ECS program, parents may meet the requirement by having a health care provider—physician or public health agency staff person—provide an "appropriate developmental screening program." Required components include developmental screening (fine and gross motor skills, speech and language, social-emotional status, and cognition using a standardized developmental screening instrument and parent report), hearing screening, vision screening, immunization review, and parent summary interview. Guidelines for a new required component—family circumstances that might affect development—are being developed. Note that the following are *not* required by state law for school entrance: physical assessment, health history, nutrition assessment, laboratory test, and dental referral.

Well-child care is emphasized in several ways. When children participate in the school ECS program, results of previous physician assessments and laboratory tests will be requested so the information can be reviewed with developmental, sensory, and family data for a complete perspective on the whole child. Further, when children lack access to well-child care or health coverage, the school is required to refer the family to an appropriate health care provider. School personnel will continue to provide information to parents about the Children's Health Plan and EPSDT/MA. In some communities, particularly where access to well-child care is limited, the physical health components will be offered at the school ECS program, especially when schools are working in partnership with medical clinics or public health agencies.

School personnel have been asked to contact medical and public health personnel to coordinate the newly required services to young children. Issues to be discussed include the following: 1) criteria for a comparable developmental screening program that will be accepted when a child first enrolls in a public school, 2) methods of handling requests for results of any laboratory test, health history, or physical examination for children seen within the 12 months preceding ECS, 3) receptivity to referral for children and/or families who lack health care coverage, 4) referrals for assessment, diagnosis, and treatment from the school ECS program, 5) follow-up process for confirming children have received care, for reporting results of diagnosis and treatment, and for determining children's future needs.

Physicians are encouraged to contact their local school districts' Early Childhood Screening coordinators for a copy of the amended law and a checklist of the program requirements.

Ruth Ellen Luehr
Early Childhood Screening Specialist
Minnesota Department of Education
St. Paul, Minnesota

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Advances in Epilepsy Surgery Offer Patients New Hope

Minnesota Medicine interviews Frank W. Sharbrough, M.D.

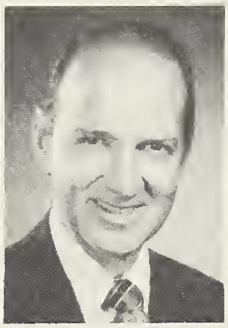
Epilepsy has long bewildered mankind—the ancient Greeks believed it was a sacred disease caused by a visit from the gods. Hippocrates, however, correctly suspected as early as 400 B.C. that epilepsy was a brain disorder.

Today, epilepsy is one of the most common neurological disorders in the United States. One of every 100 persons has some form of the disease, with seizures ranging from partial seizures with only subtle manifestations to generalized tonic-clonic seizures (grand mal seizures), which affect the entire brain and lead to convulsions and unconsciousness.

Only during the past century have we begun to understand and successfully treat epilepsy. Antiepileptic drugs today control seizures in more than half of all epileptic patients, and those whose seizures cannot be controlled with medication have a second hope through surgery. Epilepsy surgery has come a long way in recent decades, and in this month's interview, Frank W. Sharbrough, M.D., of the Mayo Clinic, discusses the advent of sophisticated technology to diagnose epilepsy and aid in surgically removing affected portions of the brain.

Dr. Sharbrough, a neurologist and an electroencephalographer, describes the EEG's importance in diagnosing epilepsy, analyzing seizures, and performing surgery. EEG recordings taken from the scalp can typically pinpoint the epileptic focus in the brain, although in some cases electrodes must be surgically placed to confirm the focus.

A major advance in neurosurgery is the computer-assisted stereotaxic surgical technique, which allows neurosurgeons to directly approach epileptogenic lesions within a few millimeters. The technology currently used at the Mayo Clinic, which was originally designed for surgical biopsy and removal of brain tumors, was developed to a large extent by Patrick Kelly, M.D., before he joined the Mayo Clinic staff. Such surgical advances combined with more standard approaches have enabled many epileptic patients to become seizure-free and lead productive, independent lives.



Frank W. Sharbrough, M.D.

> "The marriage of computer-assisted imaging techniques with surgical procedures has greatly advanced surgery for epilepsy."

Developing an Interest in Epilepsy

Minnesota Medicine: Dr. Sharbrough, tell us about your career—how it started and how you became interested in surgery for epilepsy.

Sharbrough: My training in neurology began in Ann Arbor, Michigan, in 1961. I first became interested in epilepsy while working with electroencephalograms at that time. I came to the Mayo Clinic in 1968 and became involved in the epilepsy surgical selection program. My interest in epilepsy surgery has grown steadily over the years, and it's currently my primary area of interest.

Minnesota Medicine: Tell us a little about the history of epilepsy surgery.

Sharbrough: Occasional surgery for epilepsy was performed in the late 1800s by such famous surgeons as Sir Victor Horsley. The sources of the epilepsy in these early cases were obvious lesions producing clinically localizable seizures. In the 1930s, Wilder Pinfield and Herbert Jasper, working together in Montreal, Quebec, began applying the newly developed technique of EEG to the selection of surgical candidates. The program they established continues today as one of the more active epilepsy centers.

Applying New Techniques

Minnesota Medicine: No doubt new techniques have been developed that have drastically improved surgery for epilepsy. Can you tell us something about the development of these surgical techniques?

Sharbrough: Several techniques have been developed. One of the earlier advances improved the ability to diagnose difficult cases by implanting electrodes within the brain to get closer to the source of trouble. That technique has improved over time. More recently, the advent of computers has allowed for improved analysis of seizures. This analysis of EEG recordings from the scalp has lessened the need for invasive monitoring in many cases but has not eliminated it entirely. Finally, the marriage of computer-assisted imaging techniques with surgical procedures has greatly advanced surgery for epilepsy. In particular, computer-assisted stereotaxic surgery, as developed and refined by Dr. Patrick Kelly of the Mayo Clinic, has greatly advanced surgical treatment of epilepsy due to lesions located in critical portions of the brain.

Navigating the Brain

Minnesota Medicine: At a presentation you gave not long ago, you said the current imaging technology can pinpoint the area where trouble arises. Is that correct?

Sharbrough: Very often it can. In the temporal lobe on the side that generates the seizures, the hippocampus (the medial temporal structure) is often atrophic. MRI can preoperatively determine the side that's atrophic through a quantitative measure of its volume using techniques developed by Dr. Clifford Jack of our radiology department. In fact, with a little imagination, you can almost visualize the site of pathology. In other regions of the brain that have a surface abnormality, it's now possible to construct a three-dimensional MRI image of the brain's surface, which is helpful when trying to identify a surface abnormality that is causing seizures.

Minnesota Medicine: I understand there is a way to correct deep-seated lesions that would ordinarily be life threatening. Tell us about that.

Sharbrough: Basically, with smaller lesions that are in critical areas, the goal is to approach them directly with as little disruption to normal tissue as possible. This is expeditiously done with the computer-assisted stereotaxic surgical procedure that I mentioned earlier. With this procedure, an aluminum frame is placed on the patient's head. It serves as a longitude and latitude reference so that every image on the MRI, X-ray, angiogram, and CT scan can be given a coordinate localization. Using this technique, the surgeon can plan his approach to the lesion and reach it within a few millimeters. This technique offers tremendous advantages for removing lesions that are not visible from the surface of the brain or that are in a critical area for function.

Minnesota Medicine: It sounds like celestial navigation.

Sharbrough: That is a good analogy. In fact, Dr. Patrick Kelly, who developed the system, is also a good sailor and navigator.

Selecting Patients for Surgery

Minnesota Medicine: Tell us something about your criteria for selecting patients who would benefit from surgery.

Sharbrough: The main criteria are that all reasonable medical treatment programs have failed to control the seizures, and the remaining uncontrolled seizures are burdensome for the patient. If the seizures can be localized to an epileptogenic source that can be surgically removed with low risk, the person is an ideal candidate for surgical treatment. About 85 percent of these sources are located in the temporal lobes. The next most common location is the frontal lobe. The other regions are generally the ones we manage or treat with the computer-assisted stereotaxic approach.

Minnesota Medicine: How well can the outcome of surgical treatment be predicted?

Sharbrough: Our ability to predict surgical outcome is really quite good, especially in the temporal lobe area. If selected on electro-clinical criteria without reference to MRI evidence of atrophy, about 75 percent of the patients will become free of seizures after surgery while continuing to use some medication. About 90 percent of patients are effectively seizure-free at the end of two years in cases where the electro-clinical information localizes the source of the seizure to an area of MRI-demonstrated hippocampal atrophy. This added MRI information thus increases our ability to predict whether patients are going to do well. If they have MRI evidence of problems on the other side, their chance of being seizure-free is considerably lower—less than 50 percent.

Minnesota Medicine: Do some surgical patients still require anti-seizure medication?

Sharbrough: Yes. We ask all patients to stay on some medication for a minimum of two years after surgery, although it's almost always a smaller amount than before the surgery. If the patient remains seizure-free for those two years, we offer the option of gradually reducing and eliminating the medication. Of the patients who remain seizure-free while on medication for two years, about two-thirds are able to eliminate all their medication or nearly all of it. The other one-third have recurring seizures when the medication is cut down, and they must remain on it for a longer period of time to remain seizure-free. However, because our main goal is to eliminate the seizures while maintaining some medication after surgery, we feel we've accomplished this goal when the patient is seizure-free on a reduced program of medication. If the patient is able to get off medication entirely, it's considered a bonus.

Performing Surgery

Minnesota Medicine: As a neurologist, are you present in the operating room during neurosurgery?

Sharbrough: Yes. My role in the operating room is to interpret the EEG recordings that are done from the surface as well as from the depth of the brain immediately before surgery, as well as the EEG recordings done from the post-excision area of the brain right after surgery.

Minnesota Medicine: I understand that you're also an electroencephalographer.

Sharbrough: That's correct. It's kind of a natural marriage of my clinical interest in epilepsy with an important laboratory technique. EEG is the method of obtaining the electrical signs of epilepsy, just as the EKG shows the electrical signs of irregular cardiac activity.

Minnesota Medicine: Please take us through a typical surgery—describe what you witness in the operating room, for example.

Sharbrough: Generally, a patient who is having difficulty controlling seizures is seen initially as an outpatient. The medical options, if any are left, are discussed. If no other options exist, surgery is discussed along with its risks, potential benefits, and expense. If the patient decides to proceed, some additional outpatient testing is done, particularly MRI measurement of temporal volumes, psychometric testing to assess the patient's memory and learning function—which can be affected by surgery—and additional routine EEG testing to see what the patient's pattern looks like when the patient is on medication. After these and other initial evaluations are completed, and if surgery looks promising, the patient is admitted to a hospital where we can record his or her EEG under video monitoring 24 hours a day while reducing medication. This allows us to view some typical seizures and determine if they come from the area we originally suspected.

Next, we obtain an arteriogram and do what's called an amytal test, where we inject amytal into the carotid artery on the side of surgery. This identifies whether it's the speech side and gives us some clues as to whether that side is essential for learning and memory. The latter is a more difficult question to answer. As mentioned, MRI helps us determine if the side we are operating on is already atrophic. If this is the case, then the likelihood is small that the patient will have trouble with memory and learning after surgery.

When the surgery is performed, the patient is first anesthetized, then the surgeon exposes the area, and recordings are taken from the surface and through electrodes that pass through the deeper structures of the brain. The localization of the focus, which we would have already identified from the scalp, is refined, and then the area is surgically removed. Afterward, we take recordings to see if there's any residual abnormal activity, and as long as there's no significant activity, the procedure is completed. The patient stays in the intensive care unit from one to two days and in the hospital for seven to 10 days. The patient then recovers at home for about one month and can return to full activity in three months, provided there are no complications.

Minnesota Medicine: What's the profile of an average candidate for epilepsy surgery?

Sharbrough: Commonly, the patient is an individual who early in childhood had a very complicated febrile seizure, at times hemi-convulsive, which may have produced a transient weakness on one side of the body. Then later, somewhere around the age of 3 or older, the patient started having so-called complex partial seizures—focal non-convulsive seizures with impaired consciousness. The seizures probably became increasingly difficult to control, and sometime during the patient's late teens or maybe early 20s, it was recognized that medication was not going to control the seizures. Either the patient would have to live with the seizures, or something more dramatic would have to be done. That's when the patient comes in for surgical evaluation.

> "Many patients who become seizure-free after surgery are able to go from a dependent life to an independent, productive life."

Improving Patients' Lives

Minnesota Medicine: Dr. Sharbrough, I noticed a plaque expressing appreciation to you and your colleagues from a patient who had surgery for a seizure disorder. Can you tell us a little about that patient's experience? What was the nature of her problem and how has surgery changed her life?

Sharbrough: Before surgery, this patient was unable to work or drive and had difficulty attending school because of her seizures. Since the surgery, she's been seizure-free. She returned to college, completed her degree, and is now working as a nurse. She drives and lives independently. Her situation is an ideal result. Many patients who become seizure-free after surgery are able to go from a dependent life to an independent, productive life, although the improvement in lifestyle is often not as dramatic as it was for the patient who sent the plaque.

Minnesota Medicine: That's remarkable. There aren't too many situations in medicine where such a dramatic outcome is accomplished. How many patients undergo surgery for epilepsy at the Mayo Clinic?

Sharbrough: The numbers have steadily increased over the past 10 years. In 1990, we operated on 107 patients.

Minnesota Medicine: Where do your patients come from?

Sharbrough: The majority come from within the four-state area—Illinois, Iowa, Wisconsin, and Minnesota. Some have come from as far away as Saudi Arabia, and some have come from England. They come from all over, but most come from this region.

Benefiting from Stereotaxic Surgery

Minnesota Medicine: Can you speculate about the future use of the computer-assisted stereotaxic surgical procedure? Can it be extended to other types of disorders other than seizure disorders?

Sharbrough: The surgical treatment for movement disorders, such as Parkinson's disease, is similar. The one thing that makes epilepsy unique is that the patient has damaged tissue that many times is not serving a useful function but is disturbing normal brain function through electrical impulses. We are able to isolate and remove the abnormality that's disrupting the rest of the brain.

Minnesota Medicine: Are these procedures also used for tumors?

Sharbrough: Yes. Dr. Kelly originally developed the procedure for stereotaxic biopsy and removal of tumors. Epilepsy patients have benefited from a fallout of his technology. The procedure allows for biopsy of tumors in areas that you ordinarily wouldn't be able to get to safely, including tumors of the brain stem and other deeper brain structures.

Minnesota Medicine: How extensively is this procedure used in other medical centers?

Sharbrough: Stereotaxic surgery is widely used at most major medical centers, and, actually, Dr. Kelly's specific system has been adopted by a number of institutions. Some of his original training in standard stereotaxic surgery was in Paris, and the institution where he trained now uses his computer-assisted system. It's a tremendous advance. MM

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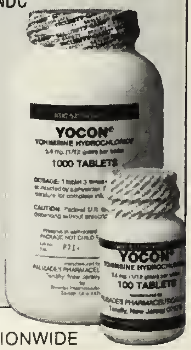

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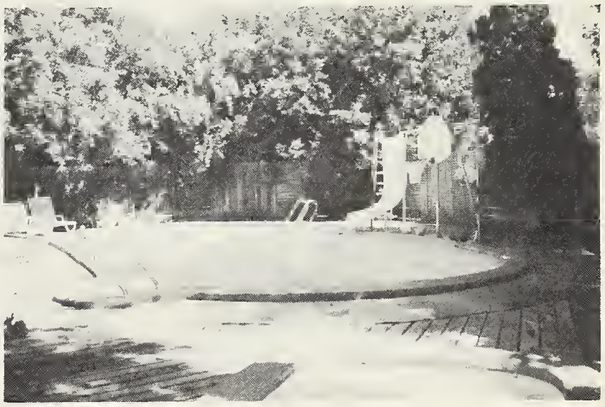

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SEABURY & SMITH

Putting State's AIDS Hysteria into Global Perspective

James M. Shultz, Ph.D.

Powered by high-dose hysteria, Minnesotans are striking out at their health care providers and demanding HIV testing to assure patient safety. In the process, two physicians have been publicly lynched; accusations have been leveled at health officials and the media for inciting fears; patients and providers are pitted in adversarial stances, each fearing infection from the other; and the state has been thrown into disarray. The usual high dignity that characterizes Minnesota has been shattered.

CARL WESLEY

The issue that is traumatizing the state represents a small freckle on the corpus of the global AIDS epidemic, an issue that has taken 10 years to surface.

Momentarily suspend judgment. Take the higher ground; assume no malice. Perhaps, in truth, the physicians in question are compassionate providers who have continued in their roles as healing professionals while facing their own mortality, and have taken exceeding care to protect their patients (no one has been infected). Perhaps, in truth, the Health Department, armed with the largest cadre of dedicated AIDS staff in the nation per diagnosed AIDS case, has responded with efficiency and professionalism in its investigation of this case and has attempted to quell the public reaction. Perhaps, in truth, the media have generally reported the events factually and responsibly.

Hold your splutter. Lower your jabbing fingers. Give me two minutes.

First, it is important to put the issue of provider-to-patient transmission of HIV in perspective. After 10 years of intensive epidemiologic monitoring of the U.S. AIDS epidemic, only one episode of provider-to-patient transmission has been documented, involving infection of five patients by a Florida dentist. One of these five patients has progressed to AIDS. Therefore, among 179,316 AIDS cases diagnosed in the United States as of May 31, one AIDS case involves provider-to-patient transmission. This must be regarded as an exceptional instance, a peripheral issue in the national epidemic.

Provider-to-patient transmission is not a driving force in the AIDS epidemic. While such cases are individually intriguing, and capable of triggering fear in the populace, they are inconsequential in shaping the overall epidemic.

Second, Minnesota has been relatively spared in the national AIDS epidemic. Very little HIV has entered the borders of the state. And the fact greatly reduces the probability of HIV infection among Minnesota health care workers. Minnesota ranks among the bottom 15 states in terms of rate of AIDS cases, with 937 total AIDS cases reported through last June. The numbers of new AIDS cases diagnosed each year have remained essentially unchanged for the last several years; 159 cases in 1988, 185 in 1989, 185 in 1990, 79 reported through midyear 1991. In 10 years, 589 deaths from AIDS have occurred; for perspective, during the same time period, there have been an estimated 46,000 Minnesota deaths attributable to cigarette smoking and 11,000 deaths from alcohol use and misuse.

Third, concern about the expanding dimensions of the AIDS/HIV epidemic is completely warranted. But not in Minnesota. So, mentally, rise above the state, emerge from the fear-engulfed, parochial view of this epidemic.

As an epidemic that is localized in urban centers, it is immediately apparent that Minnesota is geographically buffered on all sides by areas of extremely low incidence. As you ascend the Great Lakes and the coastlines come into view, consider the burgeoning epidemics escalating in Chicago, New York City-Newark-Jersey City, San Francisco, and Los Angeles.

As your gaze moves south, envision the epidemic in Houston. Contemplate the graceful Florida peninsula and realize that in Miami, HIV infection is sweeping through a population of 12,000 homeless persons, a frightening overlay to ongoing, simultaneous subepidemics raging from intravenous drug users, recent immigrants from high-incidence Caribbean nations, and gay and bisexual men.

> "Unfortunately, as the AIDS/HIV epidemic matures, the exceptional cases gain rarefied status."

Using these cities as launch-points to the hemisphere, consider the fact that Latin America now has a critical mass of HIV infection that will propel the AIDS epidemic with accelerating force through the decade of the 1990s. As the planet revolves beneath you, control the tendency of your mind to reel at the annihilation of African nations below the Sahel. In this area, the World Health Organization predicts that 10 million HIV-infected babies will be born in the 1990s, that an additional 10 million children will be AIDS-related orphans.

Obscured by the local saga, Minnesotans may not have grasped the magnitude of the global AIDS/HIV epidemic reported at the Seventh International Conference on AIDS, estimated at 10 million world citizens currently infected with HIV. Worldwide, the public health community is utterly outgunned and outmanned. An epidemic of such stunning force demands a worldwide response, but one that focuses on the true sources of risk.

Unfortunately, as the AIDS/HIV epidemic matures, the exceptional cases gain rarefied status. While the isolated episodes are alarming, I am struck by the public's penchant for portraying this epidemic in terms of individual cases involving named protagonists. There seems to be a strong need to make attributions of guilt and innocence to these players and to demand retribution.

Nevertheless, such public alarm and hysteria in low-incidence areas must be regarded as self-indulgent and counterproductive. And viewed in global perspective, fear-aroused proposals for testing health care workers must be regarded as inexcusable squandering of scarce resources for AIDS. **MM**

James M. Shultz, formerly a behavioral epidemiologist with the AIDS prevention services section of the Minnesota Department of Health, is assistant professor of epidemiology and public health, University of Miami School of Medicine.

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COVER STORY

PHYSICIANS WITH AIDS

Healing the Crisis of Confidence

On Friday, June 14, a letter was mailed to the patients of a Twin Cities physician that would stun its recipients and profoundly affect every doctor in the state. The physician who sent the letter, Philip D. Benson, M.D., wrote that he had AIDS and advised his patients to be tested for the AIDS virus. His letter sent shock waves through the state, and the issue it raised—the testing of health care workers for human immunodeficiency virus—quickly became embroiled in a national debate. The initial furor raised by Dr. Benson's disclosure has subsided, but the medical community is still feeling its repercussions and will for a long time. That letter put every doctor in this state on trial.

So far, the Benson case has raised more questions than answers. But one thing is clear: the public perceives doctors as hazardous to its health.

In a July Gallup survey, more than 90 percent of respondents said they want to know their physicians' HIV status; 65 percent said they would discontinue treatment by an infected physician. Call it irrational, but the public is scared.

• • • • •

By Miriam K. Feldman

Now, it is up to the medical community to calm those fears. It is time to assess the situation, acknowledge the public's fear, and develop guidelines before others, short on medical knowledge, do.

"What this whole Benson episode has demonstrated is that patients want assurance that they're not being exposed by their physicians to contagious diseases," said MMA President Thomas A. Stolee, M.D. "Clearly, patients want to feel confident that they're not putting themselves at risk when they visit their doctor. The physician community has to reassure the public that seeing a physician is safe."

The irony of the public's reaction has not been lost on physicians, a group accustomed to approaching problems rationally, scientifically. The risk of getting AIDS from a doctor is infinitesimally low, and as far as anyone knows, no physician has transmitted the virus to a patient. As if to underscore this truth, none of Benson's patients has tested positive for the AIDS virus. (A Florida dentist is known to have infected five patients, but circumstances surrounding that case have never been fully explained.) On the other hand, doctors face far greater risk of infection from patients, and 46 health care workers are known to have been infected from occupational exposures. Nevertheless, addressing what some have called the public's "crisis of confidence" has become a key issue in the debate sparked by Benson's disclosure.

ILLUSTRATION BY CARL WESLEY

"I think it's important for everybody involved in this discussion to keep in mind the fears and concerns of the patients. Physicians have to be willing to evaluate the scientific evidence, not only from a strictly medical perspective, but also think about it from the patient's perspective," said Stephen Kelley, a public representative to the Board of Medical Practice (formerly the Board of Medical Examiners). "Doctors are trained to be scientists. They think about their risks of transmission in scientific terms, and it's easy to conclude there's such a low risk that there's really no need to impose restrictions or change the way things have been done until now. But patients and the public perceive the risk differently, and physicians have to make an effort to understand that."

Others agree. "We can't just say the risk is extremely low and we're not going to deal with it. That's probably naive and it would invite others to do something about it," said Michael Moen, director of disease prevention and control at the Minnesota Department of Health.

There are many ways to reassure the public, according to former MMA President Richard Tompkins, M.D. Education about AIDS and its transmission is one way, and education about testing is another. Tompkins, who was MMA president when the Benson case became public, recommends that physicians who are at risk should be tested and should modify their practices, if appropriate. Finally, physicians must ask for more leeway in testing patients, he said.

The public will be further reassured when the medical community develops guidelines for preventing the transmission of HIV to patients. The guidelines that emerge will be based on the deliberations of at least a dozen committees that are trying to resolve numerous questions raised by the Benson case: Do physicians have to inform their patients if they are HIV infected? Do physicians have a right to privacy, or must they waive that right so their patients may make an informed decision about treatment? Should health care workers be tested for HIV? If so, which ones and under what conditions? Do physicians have a right to require that their patients be tested? Should the Board of Medical Practice require all physicians with AIDS or HIV to report their condition? Under what circumstances may infected physicians continue to work? (These and other questions are considered in this month's Medicine Law & Policy article on page 37.)

The medical community was caught off guard at the time of the Benson disclosure, unprepared to answer these questions because, despite the public perception, HIV-infected physicians do not pose a public health threat, so nobody had felt the urgency to act quickly. In fact, the medical community was waiting for the Centers for Disease Control (CDC) to issue guidelines.

"We were reluctant to try to establish state policy without first the federal agency that has specific responsibility in this area to give us guidance," said H. Leonard Boche, executive director of the Board of Medical Practice. The board had an HIV task force, Boche explained, but it was waiting to see what CDC would propose before taking any action. Most health care groups, from the Health Department to hospital infection-control committees, were doing the same thing. Then, as Boche puts it, "events outran the study process."

"Patients want to feel confident that they're not putting themselves at risk when they visit their doctor. The physician community has to reassure the public that seeing a physician is safe."

–Thomas Stolee, M.D.

It's unlikely that the controversy raised by the Benson case could have been averted had CDC issued its guidelines any sooner, but many observers accused the agency of foot-dragging in response to political pressure. The CDC finally issued guidelines in mid-July, about one month after the Benson letters were mailed. Most observers agree that the guidelines are a good starting point for discussion and that they give a lot of leeway to individual communities.

"These guidelines will be used as a minimum standard. They give us some guidance and some ways to go," said Margaret Simpson, M.D., director of the AIDS program at Hennepin County Medical Center, director of the Red Door Clinic (a Minneapolis AIDS testing and counseling center), and a member of at least a half dozen AIDS task forces, including the MMA's AIDS subcommittee, which she chairs.

The CDC guidelines acknowledge that the risk of HIV transmission from doctor to patient is small, but the risk increases during "exposure-prone" procedures, a term the CDC plans to define by mid-November.

The best way to minimize risk, says the CDC, is by adhering to universal precautions: wash your hands, use protective barriers, and be careful with needles and sharps. Health care workers with open sores should refrain from all patient contact, but there is no need to restrict the practice of health care workers who perform invasive procedures that are not "exposure prone" if the health care worker follows universal precautions, the agency says.

"Some might say the cost of mandatory testing is worth it to reassure the public, but I would point out that the test is only good at the time of the test."

–Richard Tompkins, M.D.

The CDC reaffirms the position already taken by the MMA and AMA: Mandatory testing is not recommended, because the risk does not justify the cost. However, health care workers who perform "exposure-prone" procedures should know their HIV status, the CDC says. Finally, the CDC recommends counseling and job retraining for infected health care workers, notifying patients only on a case-by-case basis, and improving disinfection and sterilization techniques.

They are good guidelines, says Duluth psychiatrist Clyde Olson, M.D., a member of the Board of Medical Practice and chair of its HIV task force. "They're guidelines in the true sense of the word. They're general. They don't get real proscriptive, and they leave some room and flexibility for state boards."

The CDC guidelines haven't changed things much, according to the MMA's Tompkins. "What they do is confirm from an independent source, a non-practicing physician source, that the ideas physicians have had are sound ones," Tompkins said. Ideally, policy in Minnesota will "settle somewhere close to CDC guidelines."

The guidelines have become a point of reference for numerous organizations trying to formulate policy, including the MMA, the Minnesota Department of Health, a variety of professional associations, and hospital infection-control committees. Additionally, an umbrella organization has been created to bring some coherence to the discussion. The coalition includes the MMA, the Council of Hospital Corporations, the Minnesota Hospital Association, the Ramsey County Medical Society, the Hennepin County Medical Society, the Minnesota Dental Association, the Minnesota Nurses Association, the Coalition on Nursing, the Board of Medical Practice, the Minnesota Department of Health, and a number of other health care organizations.

"Our goal is to get consensus on this," said James Koppel, the Council of Hospital Corporations' vice president for community relations. "We want to educate ourselves and be aware of public perception and public reaction, as well as the protection of providers."

The HIV/HBV Joint Task Force, chaired by Robert D. Christensen, M.D., of Minneapolis, and Dick Peterson, president and CEO of Riverside Medical Center, plans to issue a report by early November. The task force is charged with developing a statewide policy on HIV and the hepatitis B virus for the protection of health care workers and patients, said Koppel, who staffs the task force with Roger Johnson and Mary Prentnieks of the MMA. It also will consider ways to educate the public, health care workers, insurers, and regulating agencies and will develop prototypical policies that can be adopted by hospitals, clinics, and regulatory agencies and can be considered by the Legislature as a model for public policy.

ILLUSTRATION BY CARL WESLEY

While awaiting more specific guidelines from the many groups still convening, physicians can follow existing guidelines. The CDC guidelines are the best place to start, but local agencies also have long-established rules that address the issue. The Board of Medical Practice, the state agency that licenses physicians, does not yet have a specific policy on AIDS, but it does have a very clear policy about impaired physicians, a category that could include those with HIV or AIDS.

"What we can say now, is that physicians have an obligation to practice with reasonable skill and safety to the patient and that we expect physicians who are aware of another physician, who by reason of an impairment or illness is not practicing with reasonable skill and safety, be reported to the board," said Stephen Kelley, who chairs the board's public policy committee.

The board voted in mid-September to present a plan to the Legislature that would rely on voluntary testing of physicians who perform exposure-prone procedures. Also under the plan, any physicians who know they are HIV infected—or know of any other HIV-infected physicians—would be required to inform the board. This information would not be made public as long as the infected doctor cooperates with the board. If a physician fails to comply with board-imposed restrictions, the information would become public. The board will be seeking public comment before finalizing the plan.

The Minnesota Department of Health, whose responsibility it is to control and investigate any communicable diseases in the population, is also looking at a number of issues, including privacy, mandatory testing of health care workers, and patient testing. In the meantime, physicians have an obligation to report all cases of HIV to the Health Department, just as they report about 50 other communicable diseases.

Minnesota's health care community lost time articulating its views on HIV-infected health care workers while waiting for the CDC guidelines, but it hopes to establish policy soon, before others step in to fill the void.

"We need to deal with this and we need to do something proactively, or others will," said the Health Department's Moen. "If the medical community and public health community can't put something forth that's responsive, the Legislature will put something forth on its own. A variety of other actors are out there who will fill this vacuum if it's not dealt with successfully."

The courts, for one, may step in to help resolve the issue, warns Reinhard Priester, a research associate at the University of Minnesota's Center for Biomedical Ethics. (At least one of Benson's patients has filed suit against Benson and his practice.) The courts probably would rely on the doctrine of informed consent, a patient-centered doctrine that has been evolving since the mid-1950s and is based on what the patient must know to make an informed decision about a procedure, said Priester. That doesn't bode well for the physician community, given public sentiment toward physicians with AIDS, he said.

The doctrine of informed consent is so narrow that any decision based on it probably would not take into account other factors, such as the physician's right to privacy, Priester said. "A ruling of the court would likely be that physicians or dentists with AIDS should divulge that to their patients. If they don't, they are negligent. That's the way the courts would end up dealing with it."

The Legislature is sure to get into the act. Dave Bishop, IR-Rochester, was busy drafting policy long before the Benson disclosure and now is taking a harder look at his bill, which never left committee last year. He plans to introduce a revised version during the upcoming Legislative session. The bill he wrote last year mandated testing all health care workers, a policy that is bitterly opposed by the medical establishment. Bishop shelved the bill after being barraged by opposing testimony. Everyone from state epidemiologist Michael Osterholm, to doctors, health care workers, and the Minnesota AIDS Project argued against it. Bishop could see his bill wasn't going anywhere.

"I said, 'OK. This is a subject we explored, but we're not ready for legislation yet.' " Now, he believes the time is right.

Bishop's revision takes into account the testimony he

Low Compliance with Universal Precautions

When the Centers for Disease Control issued its long-awaited recommendations for preventing transmission of HIV in the health care setting, it reasserted what it had been saying all along: adherence to infection-control procedures minimizes the risk of transmission of the AIDS virus. "All health care workers should adhere to universal precautions," the federal agency advised.

But according to Keith Henry, M.D., who has conducted several studies on the subject, compliance with universal precautions is disappointingly low, particularly the handling of needles and sharps. Universal precautions, which include hand washing, use of protective barriers, and care in the use of needles and sharps, are too simple and should be tailored to specific health care settings, says Henry, who is director of the HIV/AIDS Clinic and Programs at St. Paul-Ramsey Medical Center.

The health care workers he studied had many excuses for not following universal precautions, Henry says. Not enough time topped the list, but they also cited such reasons as the patient does not appear to be at risk, the materials are not ready, and gloves interfere with clinical skills.

"One of our conclusions was that universal precautions may be somewhat too simple," Henry said. In other words, there shouldn't be one set of rules for everyone. Instead, Henry advocates interpreting the rules for specific procedures and settings. For example, he suggests comparing an emergency room in the Bronx with one in rural Minnesota. "That's basically night and day when it comes to HIV risk," Henry said. There ought to be strict controls on using universal precautions in the Bronx, Henry argues, whereas the rules might be more relaxed in rural areas. "We're suggesting that there be procedure-based and location-based input," he explained.

This tiered approach makes more sense than the current, across-the-board recommendations, says Henry. But that is not to say that some health care workers, such as those in rural Minnesota, should throw caution to the wind. Everyone must follow some precautions; there is a floor and a ceiling, Henry says. He advises every health care worker to consider all body fluids to be potentially contaminated and always to be careful with needles and sharps.

At the other extreme, says Henry, is wearing double gloves, using needleless systems, and using needles with protective sheaths that come out after the needle is used. These more expensive approaches are not warranted in every setting, but they should be considered in higher-risk settings, he said.

A higher-risk setting, according to Henry, is one with an HIV seroprevalence of 1 percent or greater. Not many areas in the Twin Cities have rates that high, although St. Paul-Ramsey's emergency room is one place that does.

Henry first studied compliance with universal precautions in 1989, after they were instituted in St. Paul-Ramsey's ER. Later, he followed up in a "more real-world setting," studying the emergency rooms of two suburban Twin Cities hospitals. Compliance in both settings was poor.

The problem extends far beyond Minnesota's borders, says Henry, who presented his findings at the international AIDS conferences in San Francisco and Florence, Italy. Comments from conference participants revealed poor compliance with universal precautions to be a worldwide problem and more the rule than the exception.

Establishing appropriate policy on universal precautions depends on having good data in lots of settings, Henry said. If more data are generated, more reasonable and cost-effective policies and educational programs can be created, assuring greater compliance. The result, says Henry, is protection of the health care worker and the patient.

–by Miriam K. Feldman

heard last year, but it still contains provisions for the mandatory testing of health care workers, only this time, he calls for "targeted mandatory testing"—the testing of certain classes of health care workers. Bishop doesn't have much faith in voluntary testing and reporting, the position favored by the MMA, AMA, and CDC. He says he is not willing to leave testing and reporting up to physicians' "ethical standards," a reference to the AMA position, which says physicians have an "ethical obligation" to report their condition to their patients or else modify their practices.

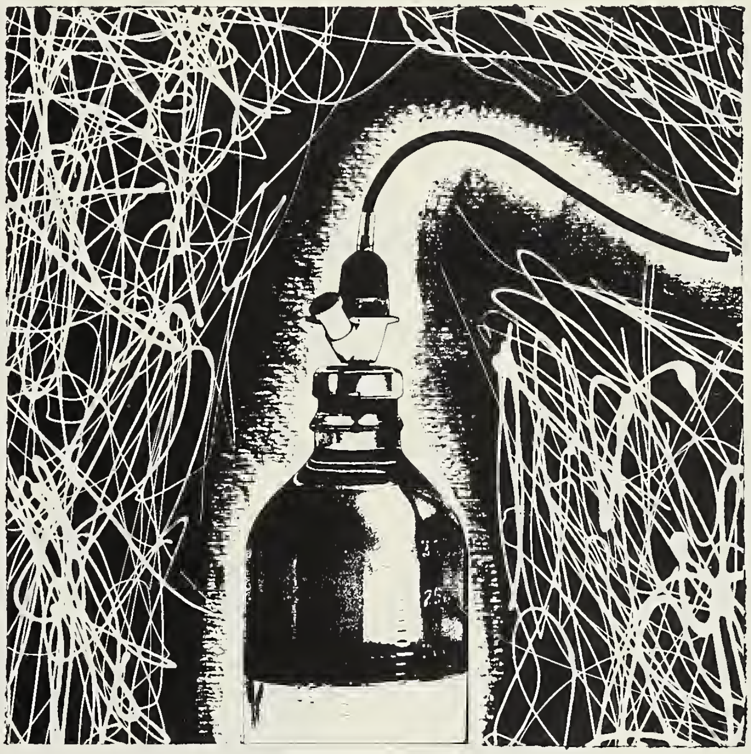
ILLUSTRATION BY CARL WESLEY

"Patients need to have more confidence in the medical profession," Bishop said. "So I think legislation is not only needed for protection, but the secondary reason is to address a crisis of confidence." Ironically, Bishop's legislation arose out of concerns of the Zumbro Valley Medical Society, which solicited his support because of its own fears about AIDS transmission in the health care setting—particularly health care workers' risk of being infected by patients. Bishop said he added the testing of health care workers out of a sense of fairness.

Mandatory testing is anathema to the medical establishment, which has opposed it as unnecessary and costly. There is no justification for mandatory testing, says Tompkins, because the incidence of the disease in the physician population is extremely low, and the cost would be prohibitively high for little yield. More important, the test for HIV does not always detect infection. A health care worker may be infected shortly before or after the test, and the virus may not show up in a blood test for six months or more.

> "It's important for everybody involved in this discussion to keep in mind the fears and concerns of the patients."
>
> *–Stephen Kelley*

"Some might say the cost is worth it to reassure the public, but I would point out that the test is only good at the time of the test," Tompkins said.

Despite opposition to mandatory testing, everyone agrees that some health care workers do need to be tested. Those with high-risk behavior need to be tested, including physicians who had blood transfusions before the blood supply was adequately screened and physicians who do invasive procedures that put them at risk of contamination, Tompkins said.

Physicians who choose to be tested for HIV should do so under proper medical supervision, said Hennepin County Medical Center's Simpson. Doctors can go to their own personal physicians or to any of a number of counseling and testing sites throughout the state (see resource list, page 34), Simpson advised, but whatever they do, they must not go to the lab and order their own tests. "They need to utilize the system appropriately," she said.

Simpson has not been tested for HIV because she does not feel she has been put at risk. However, she welcomes patient questions about her HIV status as an opportunity for education. "I would ask them why they are concerned," said Simpson, who calls this entire episode a "window of opportunity" for AIDS education. "We're all going to be affected by it. It does require more education and work at understanding what patients are concerned about."

Like Simpson, Scott Strickland, M.D., sees the silver lining to this bleak episode. Both physicians and patients will learn from the medical community's and others' efforts to establish guidelines to help prevent the transmission of HIV in the health care setting, and that is all for the good, says Strickland, an internist at Park Nicollet Medical Center who sees many patients with AIDS. The establishment of guidelines will help clarify some important issues, Strickland says. The medical community will become more aware of infection control, and many physicians will be encouraged to get tested—for their own health as well as their patients'. **MM**

Miriam Feldman is a free-lance writer living in Minneapolis and a frequent contributor to Minnesota Medicine.

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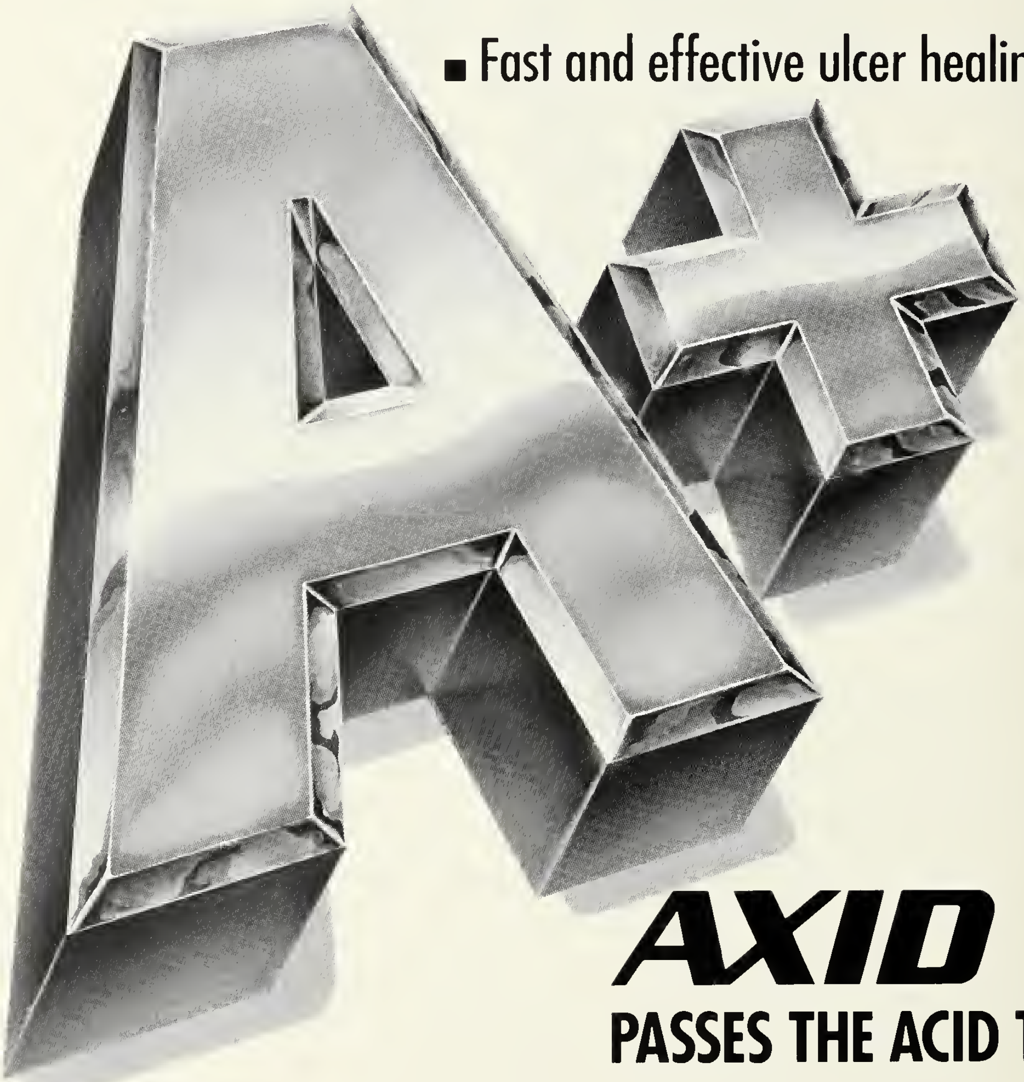

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Carcinogenesis, Mutagenesis, Impairment of Fertility—A 2-year oral carcinogenicity study in rats with doses as high as 500 mg/kg/day (about 80 times the recommended daily therapeutic dose) showed no evidence of a carcinogenic effect. There was a dose-related increase in the density of enterochromaffin-like (ECL) cells in the gastric oxyntic mucosa. In a 2-year study in mice, there was no evidence of a carcinogenic effect in male mice, although hyperplastic nodules of the liver were increased in the high-dose males as compared with placebo. Female mice given the high dose of Axid (2,000 mg/kg/day, about 330 times the human dose) showed marginally statistically significant increases in hepatic carcinoma and hepatic nodular hyperplasia with no numerical increase seen in any of the other dose groups. The rate of hepatic carcinoma in the high-dose animals was within the historical control limits seen for the strain of mice used. The female mice were given a dose larger than the maximum tolerated dose, as indicated by excessive (30%) weight decrement as compared with concurrent controls and evidence of mild liver injury (transaminase elevations). The occurrence of a marginal finding at high dose only in animals given an excessive and somewhat hepatotoxic dose, with no evidence of a carcinogenic effect in rats, male mice, and female mice (given up to 360 mg/kg/day, about 60 times the human dose), and a negative mutagenicity battery are not considered evidence of a carcinogenic potential for Axid.

Axid was not mutagenic in a battery of tests performed to evaluate its potential genetic toxicity, including bacterial mutation tests, unscheduled DNA synthesis, sister chromatid exchange, mouse lymphoma assay, chromosome aberration tests, and a micronucleus test.

In a 2-generation, perinatal and postnatal fertility study in rats, doses of nizatidine up to 650 mg/kg/day produced no adverse effects on the reproductive performance of parental animals or their progeny.

Pregnancy—Teratogenic Effects—Pregnancy Category C—Oral reproduction studies in rats at doses up to 300 times the human dose and in Dutch Belted rabbits at doses up to 55 times the human dose revealed no evidence of impaired fertility or teratogenic effect; but, at a dose equivalent to 300 times the human dose, treated rabbits had abortions, decreased number of live fetuses, and depressed fetal weights. On intravenous administration to pregnant New Zealand White rabbits, nizatidine at 20 mg/kg produced cardiac enlargement, coarctation of the aortic arch, and cutaneous edema in 1 fetus, and at 50 mg/kg, it produced ventricular anomaly, distended abdomen, spina bifida, hydrocephaly, and enlarged heart in 1 fetus. There are, however, no adequate and well-controlled studies in pregnant women. It is also not known whether nizatidine can cause fetal harm when administered to a pregnant woman or can affect reproduction capacity. Nizatidine should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers—Studies in lactating women have shown that 0.1% of an oral dose is secreted in human milk in proportion to plasma concentrations. Because of growth depression in pups reared by treated lactating rats, a decision should be made whether to discontinue nursing or the drug, taking into account the importance of the drug to the mother.

Pediatric Use—Safety and effectiveness in children have not been established.

Use in Elderly Patients—Healing rates in elderly patients were similar to those in younger age groups as were the rates of adverse events and laboratory test abnormalities. Age alone may not be an important factor in the disposition of nizatidine. Elderly patients may have reduced renal function.

Adverse Reactions: Clinical trials of varying durations included almost 5,000 patients. Among the more common adverse events in domestic placebo-controlled trials of over 1,900 nizatidine patients and over 1,300 on placebo, sweating (1% vs 0.2%), urticaria (0.5% vs <0.01%), and somnolence (2.4% vs 1.3%) were significantly more common with nizatidine. It was not possible to determine whether a variety of less common events were due to the drug.

Hepatic—Hepatocellular injury (elevated liver enzyme tests or alkaline phosphatase) possibly or probably related to nizatidine occurred in some patients. In some cases, there was marked elevation (>500 IU/L) in SGOT or SGPT and, in a single instance, SGPT was >2,000 IU/L. The incidence of elevated liver enzymes overall and elevations of up to 3 times the upper limit of normal, however, did not significantly differ from that in placebo patients. All abnormalities were reversible after discontinuation of Axid. Since market introduction, hepatitis and jaundice have been reported. Rare cases of cholestatic or mixed hepatocellular and cholestatic injury with jaundice have been reported with reversal of the abnormalities after discontinuation of Axid.

Cardiovascular—In clinical pharmacology studies, short episodes of asymptomatic ventricular tachycardia occurred in 2 individuals administered Axid and in 3 untreated subjects.

CNS—Rare cases of reversible mental confusion have been reported.

Endocrine—Clinical pharmacology studies and controlled clinical trials showed no evidence of antiandrogenic activity due to nizatidine. Impotence and decreased libido were reported with equal frequency by patients on nizatidine and those on placebo. Gynecomastia has been reported rarely.

Hematologic—Fatal thrombocytopenia was reported in a patient treated with nizatidine and another H_2-receptor antagonist. This patient had previously experienced thrombocytopenia while taking other drugs. Rare cases of thrombocytopenic purpura have been reported.

Integumental—Sweating and urticaria were reported significantly more frequently in nizatidine- than in placebo-treated patients. Rash and exfoliative dermatitis were also reported.

Hypersensitivity—As with other H_2-receptor antagonists, rare cases of anaphylaxis following nizatidine administration have been reported. Rare episodes of hypersensitivity reactions (eg, bronchospasm, laryngeal edema, rash, and eosinophilia) have been reported.

Other—Hyperuricemia unassociated with gout or nephrolithiasis was reported. Eosinophilia, fever, and nausea related to nizatidine have been reported.

Overdosage: Overdoses of Axid have been reported rarely. If overdosage occurs, activated charcoal, emesis, or lavage should be considered along with clinical monitoring and supportive therapy. Renal dialysis does not substantially increase clearance of nizatidine due to its large volume of distribution.

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Ready for Medicare Physician Payment Reform?

William E. Jacott, M.D.

At this time, it is difficult to predict exactly how Medicare physician payment reform will affect our profession or our individual practices beginning next year. We can only guess whether the final rules for the resource-based relative value scale (RBRVS) are going to be published within the month, as the Health Care Financing Administration (HCFA) has promised. We can only hope that the final rules will redress the inappropriate HCFA plans that caused more than two-thirds of all U.S. lawmakers to sign letters protesting HCFA's proposed rules before taking their August vacations. We can only presume that RBRVS will go into effect in January, since there is no advantage in seeing its implementation delayed. In fact, if the program is not ready on January 1, 1992, Congress would technically have the authority to deny payment for all Medicare services. That would hurt Medicare patients and physicians alike.

In his President's Letters published in the February and August 1991 issues of *Minnesota Medicine*, Richard Tompkins, M.D., immediate past president of the Minnesota Medical Association, provided some detail on the conversion factor, the cap on balanced billing, the geographic practice cost indices (GPCIs), and the reasons why the MMA petitioned HCFA to create a single payment district for Minnesota. Rather than repeating this information, I will provide an overview of RBRVS and discuss what it will likely mean for Minnesota physicians and patients.

What's Good About RBRVS?

In contrast to early congressional and administration proposals for physician DRGs or widespread capitation, we supported an RBRVS-based payment schedule that would maintain fee-for-service as a viable Medicare payment option and preserve physicians' clinical autonomy. We also saw RBRVS as a way of eliminating much of the complexity and inconsistency that has progressively plagued the "customary, prevailing, and reasonable" (CPR) payment system.

> "The concept of RBRVS remains valid today, and the profession continues to support it."

It is a mark of our professionalism that we have for some years been working together to back RBRVS as a way to bring fairness and equity into a system that we all recognize needs those qualities for the good of our patients. In recent months, a positive effect of RBRVS has been unusual and much-needed cooperation throughout medicine. When the Health Care Financing Administration issued its proposed rules (notice of proposed rule making or NPRM) in June—rules that would result in a 16 percent cut in the key RBRVS conversion factor—the profession came together admirably in an aggressive grassroots campaign that deluged HCFA with a record 95,000 comments opposing the rules. Three-fourths of the members of Congress protested, three congressional committees called in HCFA head Gail Wilensky, and now HCFA has indicated it might compromise and lessen the cut. Working with members of Congress, we will continue to make sure that the RBRVS is implemented as it was intended: as a means to bring fairness and predictability to Medicare payment, not as a budget-cutting mechanism for the federal government.

Another positive result of physician payment reform is the medical profession's support for reducing geographic variation in Medicare payments to levels of practice cost variation. The MMA's commitment to establishing a single payment district for Minnesota is an outstanding example of this.

Further, as detailed in the NPRM, it is clear that many of the onerous rules associated with CPR will not be applied under the new payment system. For example, "comparability"—a rule that enabled Medicare carriers to reduce Medicare payments to the level of their private subscribers—will not be applied. Likewise, HCFA will no longer be able to reduce payments based on "inherent reasonableness." And there will no longer be a difference in payments for nursing home visits based on whether the visit is to a single patient or multiple patients.

Finally, RBRVS should result in standardization from carrier to carrier. For instance, RBRVS will standardize how different carriers define global surgical practices, the pre- and post-surgical services, and other designations for which carriers previously have had a great deal of discretion. Because the American Medical Association's CPT editorial panel is active in the complex process of revising visit codes, the profession is assured good input into this important and technical aspect of physician payment reform. So, despite the NPRM, the concept of RBRVS remains valid today, and the profession continues to support it.

An ironic, but unexpected, positive effect of the NPRM has been to raise the media's and the public's awareness of the administration's relentless efforts to cut the Medicare budget at patients' expense. The *Washington Post* declared, "The AMA is right on this one, and the system too valuable to let the bureaucracy produce a result that no one intended." The *Post* called RBRVS "a powerful and still underappreciated system likely to transform by implication not just the way doctors are paid under Medicare but the way they are paid across the entire society." It predicted that "sooner or later, it will become a green-eyeshade system like all the rest," and pled that, "for now it deserves to be thought of and dealt with at a higher level and in broader terms." This is a sentiment to keep in mind as we prepare for RBRVS.

Looking Ahead

As legislated in the Omnibus Budget Reconciliation Act of 1989, a five-year transition to an RBRVS payment schedule will begin in January. Much of the change, however, will occur in 1992.

It is well known that under Medicare physician payment reform, payments will be based on a relative value scale reflecting 1) the relative physician work involved in a service, 2) overhead costs, and 3) professional liability insurance costs. As the first step in the transition, prevailing charges in each locality will be averaged in a manner that eliminates specialty differentials.

Thus, Medicare payments to all physicians who provide a service in a particular locality will be the same, regardless of specialty. This raises a concern that physicians will view this program in terms of who will gain or who will lose under RBRVS. The profession is just as concerned about physicians sustaining too big a loss of income as it is about increasing reimbursement for currently undervalued services. The point of RBRVS is to recognize the actual work every physician performs. If the public is to continue to perceive our profession as dedicated to patients' health, we must support a principle of payment based on resources.

To ease the transition, in 1992 reimbursement will be based entirely on the new schedule for services in which the "adjusted historical payment basis" (AHPB) is neither 15 percent higher nor 15 percent lower than the RBRVS payment schedule. Services for which the schedule represents a change of more than 15 percent will be increased or decreased from the AHPB by 15 percent of the payment schedule amount in 1992.

> "The MMA has been able to inform the media and the public that this is more than a 'pocketbook' issue for doctors."

Then, from 1993 until 1995, payments for services that do not move entirely to their relative value scale amounts in 1992 will be increased or decreased using a blend of the new payment amount and the RBRVS, with the proportion based on the new schedule increasing each year. In 1996, payments for all services will be based entirely on the RBRVS. The transition formula has the effect of providing steeper increases in payments for visits in the first year, while moderating initial payment cuts for procedures.

Geographic Adjustments

RBRVS will establish nationally standardized Medicare payment amounts. These payments will be adjusted for geographic cost differences, but current data suggest these are far below the variation in current Medicare payments. Thus, whereas current Medicare charges can vary as much as two- to threefold in different locales, under RBRVS, payment in virtually all locales will be within 20 percent—and most within 10 percent—of the national average payment. This means we will see substantially less geographic variation in Medicare payments than under the current system.

Because payments will be at least 80 percent of the new national average payment schedule amounts, the RBRVS especially benefits Minnesota. However, a conversion factor cut—especially one as high as the 16 percent HCFA proposed in NPRM—could have a huge negative impact, even presuming we do become a single payment area.

To project the impact of the new payment system on an individual physician practice, keep in mind that specialty, location, patient mix, and service mix will all play a role. In general, rural primary care physicians will see the greatest increases in Medicare payments and urban surgeons will see the largest reductions.

Dr. Tompkins' President's Letters explained in depth how the conversion factor will affect physician reimbursement levels and how the GPCIs will affect reimbursement for physicians in rural areas. Since in all likelihood we will have to maintain vigilance about the conversion factor throughout the implementation process, it is indeed gratifying that the MMA has been able to inform the media and the public that this is more than a "pocketbook" issue for doctors. I refer to a *St. Paul Pioneer Press* editorial (July 29, 1991), which comments about the proposed conversion factor cuts as reflected in the June NPRM:

"The intent to make the new program cost-neutral has been disregarded in a way that could leave primary care physicians in worse financial shape than they have been. ...The issue is especially critical here, because the rules could further diminish the supply of primary-care doctors serving rural Minnesota."

What You Can Do

Once RBRVS has been implemented, it is essential for the profession to monitor closely the regular conversion factor updates built into the program. These updates will be based on the percentage increase in the Medicare Economic Index (a measure of growth in practice expenses), the Medicare Volume Performance Standard (MVPS), and other factors. At this writing, HCFA, the Physician Payment Review Commission, and the AMA are not in agreement as to how the MVPS should be set for 1992.

In addition, because the NPRM contained relative value units for codes representing approximately 85 percent of current Medicare expenditures, many codes have not been assigned relative value units. HCFA has noted that there will be no opportunity for comment on many of the Phase III values before the final rule is published. Thus, it will consider the relative values included in the final rule to be interim values and will request public comment on them. As in the past, the MMA and AMA will keep you informed on how best to communicate your concerns about new relative value units.

The AMA has worked hard to see that our profession is assured a major role in the implementation of RBRVS. The AMA and the national medical specialty societies are currently developing a process for recommending relative value units each year for new and revised CPT codes.

The input of individual physicians is essential as we monitor RBRVS implementation and proceed with the update schedule. To be sure that the new system provides the expected elimination of wide geographic variations, we need your help in keeping a sharp eye on the GPCIs. We also need your help in monitoring patient access, particularly with the new balance billing limits. In Minnesota, we have seen how access is limited for Medicaid, and depending on how the conversion factor situation is resolved, we are concerned that HCFA may drive the Medicare reimbursements below Medicaid levels. This would cause the same kind of access problems many of our counties now have with Medicaid. If this happens, we will need your input so we can give an accurate "front-lines" report to Congress.

The Minnesota Medical Association already has had solid success in communicating physician and patient concerns to Congress. This includes activities such as meeting with congressional representatives during the summer campaign on the NPRM issues, lobbying the House Rural Health Care Coalition to bring pressure on HCFA, and encouraging leading members of Congress from both parties—including our own Sen. Dave Durenberger—to raise objections to HCFA's proposed rules. As an AMA trustee and a Minnesotan, I am proud and grateful to know that we can count on the MMA to organize an appropriate response to whatever implementation problems may develop.

The AMA will continue to help physicians and our state, county, and specialty societies by such activities as public speaking, materials distribution, and resource compilation. Now, as the final payment schedules are issued and the transition to the new system begins, our Payment Reform Education Project will keep you informed about what you need to know and what you need to do by continuing our "Physician Payment Update" series, rapidly distributing HCFA's Final Rule, conducting regional workshops for medical society staff and physicians after the Final Rule is issued, producing a national teleconference/television program, and publishing a handbook called "Medicare Physician Payment Reform: The Guide for Physicians."

All in all, the AMA remains optimistic that RBRVS will achieve the goals of stability and predictability in Medicare physician payment. We are pleased that RBRVS has the potential to eliminate wide geographic variations in payment. We believe physicians will be much better off under an RBRVS-based payment system than they would have been under capitation or physician DRGs.

Medicare physician payment reform is an important patient access issue, and although we remain unsure about some of its details, we know this is a vital test of the profession's ability to work together for the benefit of health care and our patients. MM

AMA Trustee William E. Jacott, M.D., is assistant vice president for Health Sciences at the University of Minnesota in Minneapolis.

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Examples:

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Documented Male-to-Female Transmission of HIV-1 After Minimal Vaginal Exposure in the Absence of Other Cofactors for Infection

Keith Henry, M.D.

ABSTRACT

AIDS cases attributable to heterosexual vaginal intercourse constitute a growing proportion of new AIDS cases in the United States. Major cofactors that possibly increase the efficiency of heterosexual transmission of HIV-1 include genital ulcer disease, multiple sexual exposures, lack of male circumcision, and primary and advanced stages of HIV-1 disease.

I report the case of a 33-year-old woman who was recently infected with HIV-1 after one to three nontraumatic episodes of vaginal intercourse with a healthy-appearing, HIV-1-infected, bisexual man. An investigation of her exposure history revealed the precise time frame during which infection occurred. The patient developed a primary HIV-1-infection syndrome and became seropositive for HIV-1 within eight weeks of her last sexual contact with the infected man.

An epidemiological and laboratory evaluation of the index patient and her sexual partner identified only one risk factor for enhanced HIV-1 transmission: the patient's use of oral contraceptives. Her partner was immunologically intact, HIV-1 antigen negative, and circumcised. Both of the individuals were from Minnesota, as were their recent sexual partners.

This case illustrates that HIV-1 infection by vaginal intercourse can occur in the absence of the major risk factors believed to increase the efficiency of transmission. Even in a low HIV-1 prevalence area like Minnesota, efforts to promote awareness of HIV-1 status, abstinence, non-penetrative sex, or barrier protection need to be expanded and the behaviors adopted by sexually active persons if HIV-1 transmission is to be minimized.

Despite considerable epidemiologic and laboratory evidence,[1,2] some doubt persists that vaginal intercourse is a significant risk factor for human immunodeficiency virus type-1 (HIV-1) transmission.[3,4] Recently, the World Health Organization estimated that by the year 2000, 80% of worldwide HIV-1 infections will occur by heterosexual transmission.[5] Factors that have been identified as likely to increase the risk for HIV-1 transmission by vaginal intercourse include multiple sexual exposures, trauma during sex, sex during menstruation, genital ulcer disease (GUD), lack of male circumcision, lack of condom use, primary or advanced stages of HIV disease, and the presence of HIV-1 antigen in the serum.[6-8] Additional factors that might influence the risk of HIV-1 transmission include other sexually transmitted diseases, use of an intrauterine device (IUD) or oral contraceptives, and a history of urinary tract or prostatic disease.[8-10] Demonstrating how easily HIV-1 can be transmitted sexually, this report summarizes a Minnesota case of male-to-female HIV-1 transmission that occurred from a maximum of three episodes of vaginal intercourse and in the absence of any major cofactors.

Case Report

A 33-year-old woman presented to the Saint Paul Division of Public Health (SPDPH) STD Clinic on August 20, 1990, after a male sexual partner told her that he had just tested positive for antibodies to HIV-1. She had demanded he be tested after he confided to her that he was bisexual. Her other recent sexual partners (two in the past year) were not at high risk for HIV-1 infection, and she hadn't had any sexual contact with them since December 1989. They are both from Minnesota and have tested HIV-1 seronegative. The patient had three episodes of nontraumatic vaginal intercourse with the HIV-1-infected man—on May 28, June 16, and June 17, 1990 (none coincided with her menstrual period). No form of barrier contraception (including condoms) was used, and there was no anal exposure. She was in the Armed Services and was a frequent blood donor. She had no other risk factors for HIV-1 infection. HIV enzyme immunoassay (EIA) tests performed on the following dates were negative: 11-15-88, 2-21-89, 10-27-89, 11-4-89, and 6-14-90. Her HIV-1 test of August 20, 1990, was EIA and Western blot positive (bands at 24, 41, 120, and 160). A repeat Western blot performed in November 1990 was reactive with an additional band at p17. The patient had been in good health until July 15, 1990—one month after her last sexual contact with the HIV-infected man—when she developed a diffuse skin rash, fatigue, and pharyngitis, which resolved over the next several weeks after being diagnosed clinically as Lyme disease and treated with erythromycin.

The patient had a negative cervical pap smear (including no evidence for atypia possibly caused by the human papillomavirus) in May 1990 and had no history or evidence of GUD. She did not use an IUD but was on oral contraceptives. Her initial physical exam was remarkable only for mild cervical lymphadenopathy. Her initial laboratory studies included the following: white blood cell count, 3,200/mm3 (normal 5,000-10,000/mm3); CD4 count, 806/mm3 (normal 500-1500/mm3); B-2 microglobulin, 1.6 mg/L (normal <2.7 mg/L); and a negative HIV-1 antigen and

VDRL. Skin testing revealed reactivity to mumps and tetanus. The patient's sexual partner was referred to the SPDPH for evaluation. He was a 25-year-old bisexual with a history of intravenous drug abuse. He denied knowing of his HIV-1 status until he tested positive (by EIA and Western blot) in August 1990. He denied any HIV-1-related symptoms and gave no history suggesting a primary HIV-1-infection syndrome. He confirmed that his only sexual contacts with the index patient were the three episodes of vaginal intercourse previously noted. He had no history of urinary tract infections or sexually transmitted disease. His four other sexual contacts from the past year (all women from Minnesota), whom he informed of his HIV-1 status, tested negative for antibodies to HIV-1. His physical examination was normal. He was circumcised and had no history or evidence of GUD. His VDRL was negative, his B-2 microglobulin was 1.3mg/L, and his CD4 level was 446/mm3. In addition, he had no detectable HIV-1 antigen in his serum. HIV-1 was cultured from the blood of both patients using a HIV-1 p24 capture assay.[11]

Discussion

The epidemiology of this case clearly demonstrates that the index patient became HIV-1 infected from a minimal number (one to three) of vaginal exposures with a circumcised, immunologically intact, healthy-appearing, HIV-1-infected man. She was HIV-1 seropositive within nine weeks after her last HIV-1 test and within eight weeks after her last sexual contact with the infected man. Besides the patient's use of oral contraceptives,[10] none of the major cofactors cited for facilitating HIV-1 vaginal transmission was present. Whether oral contraceptives facilitate HIV-1 transmission is not clear, and more data are needed.[6,10]

Minnesota has a relatively low AIDS incidence (4.3 cases/100,000), and St. Paul (population 270,000) has reported only 103 cases of AIDS to date. Because the single exposure attack rate for HIV-1 has been estimated to be less than 1% per sexual contact,[2] it is understandable that women in areas such as Minnesota do not perceive themselves at risk for HIV-1 exposure even if they are sexually active. Studies of the sexual behavior of college women in the United States and women served by HIV counseling and testing sites suggest that women have made few changes in their sexual behavior during the AIDS era.[12,13]

Specific data on the biologic variables determining transmission efficiency of HIV by sexual intercourse remain elusive.[9,10] Several reports demonstrate that some HIV-1-infected individuals may be "high disseminators" and that HIV-1 infection can occur after only one episode of intercourse.[14-16] Sexual exposure during the primary HIV-1 infection may be particularly hazardous. The case presented here is unusual because most of the cofactors believed to facilitate HIV-1 transmission are absent. Previous reports have documented HIV-1 transmission after artificial insemination, which presumedly occurs with little vaginal injury,[17] and animal studies of vaginal transmission involving chimp HIV and Rhesus Simian immunodeficiency virus models have also been reported.[18,19] Recent data suggest that dendritic cells located in mucosal areas, such as the vagina or rectum, could serve as an early target for HIV-1 transmission in the absence of other facilitating factors.[20] Whether some individuals are highly susceptible to HIV-1 infection [10,21] and what role anti-HIV therapy has in altering infectiousness are two of several related questions urgently needing additional study.[22-25] This case demonstrates that, in some situations, HIV-1 can be easily transmitted by non-traumatic vaginal intercourse. Physicians in Minnesota, representing a wide range of specialties, need to be alerted that they may encounter HIV-1-infected patients outside groups they traditionally have perceived to be at risk. Meanwhile, tragic situations like the case described here illustrate why efforts to promote awareness of HIV-1 status, abstinence, non-penetrative sex, and barrier protection need to be expanded in order to minimize HIV-1 transmission.[26]

Acknowledgments

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HIV and AIDS Resources

Keith Henry, M.D., and N. Holly Melroe

Human immunodeficiency virus (HIV) infection continues to be a serious challenge for physicians. As of July 1, 1991, 1,748 non-AIDS HIV-infected people had been reported to the Minnesota Department of Health, and 938 individuals had been diagnosed with AIDS. Of those, 590 have died. An estimated 2,500 to 10,000 HIV-infected individuals have been neither tested nor reported.

All physicians need to be familiar with HIV infection. Intervention is critical because HIV infection is potentially life threatening and is still regarded by many as a socially unacceptable communicable disease. Fearing negative ramifications, at-risk persons often do not seek testing for HIV, and those who know they are infected sometimes do not inform others, including health care workers, of their status.

HIV-knowledgeable physicians can help curb the HIV/AIDS epidemic. Physicians need to provide basic risk-reduction education, and, to intervene early and effectively, they need to be familiar with frequently seen symptoms and with standards of care.

Keeping up-to-date on the latest information and research findings related to HIV can be daunting. Fortunately, Minnesota has a variety of agencies physicians may contact for HIV information. The agencies we list here can provide information over the phone or can make referrals. Several provide educational programs for physicians and their offices. The physicians and clinics listed below are limited to those who have reported a sizable HIV-infected patient population.

In addition to these agencies, our area is fortunate to have the Midwest AIDS Training and Education Center (MATEC), a federally funded grant operating through the University of Minnesota's School of Public Health. The center coordinates HIV education for health care workers in Minnesota and helps place health care workers in local clinics for clinical training. For further information about MATEC's programs, call Margie Miller at 612/625-6979.

The Twin Cities AIDS clinician meetings, held four times a year, also offer valuable information on such issues as unpublished research results; currently available research protocols; concerns related to insurance, laws, and testing; reports from national and international HIV meetings and conferences; and local clinical cases. For more information, contact Dr. Frank Rhame of the University of Minnesota at 612/626-5036.

Keith Henry is director of the HIV/AIDS Clinic and Programs at St. Paul-Ramsey Medical Center and the University of Minnesota AIDS Clinical Trials Group.

Holly Melroe is an HIV nurse specialist with St. Paul-Ramsey's HIV/AIDS Clinic and Programs.

Local Resources

ACT-UP Minnesota
Advocacy for persons affected by HIV
612/870-8026

Adolescent Health Program, University of Minnesota
612/626-3101

AIDS Clinic Trials Unit
Clinical drug trials for HIV+ persons
612/625-1462 or
800/TRIALS-AIDS

Aliveness Project
Supportive living for persons with HIV, including groups, home-delivered meals, drop-in meals, library, and drop-in lounge
612/822-7946

American Indian Health Care Association
612/293-0233

Archdiocesan AIDS Ministry
Care and support for persons living with HIV, spiritual assistance, volunteer buddies
612/337-4345

Direct Aid
Craig Miller, executive director
Psychological and spiritual groups
612/429-9792

Minnesota AIDS Project (MAP)
Education, volunteer buddies, HIV case management, life enhancement, speaker's bureau, transportation, housing, home helpers
612/870-7773
outstate: 800/243-7321

AIDSLine
Information, referral, counseling
612/870-0700
Greater Minnesota: 800/248-AIDS

Minnesota Comprehensive Health Association
612/456-5290

Minnesota Department of Health
Agnes Leitheiser, HIV services and planning coordinator
612/623-5698

Minnesota Department of Human Services
Mary Alice Mowry
Financial services for HIV therapy
612/297-3344

National Hemophilia Foundation
Advocacy and referral
612/871-3340

Pathways
Drop-in center; spiritual, psychological, emotional resources for health; crisis support groups; therapeutic massage
612/822-9061

Recovery Alliance
Referral, advocacy, training for assistance related to HIV and CD
612/825-5158

St. Paul Red Cross
Elizabeth Klein
"Living with AIDS at Home..." a course for family and friends
612/291-4689

Communities of color

Hispanos en Minnesota
Vidal Castaneda
IVDA prevention/case management for Hispanic Americans
612/227-0831

Indian Health Board
René Whiterabbit
Medical services for Native Americans
Richard LaFortune, case manager
612/721-9875

Minneapolis Urban League
Grace Arrington
Health education for black Americans
612/824-7809

Minnesota American Indian AIDS Task Force
Sharon Day, executive director
Education, case management for Native Americans
612/870-1723

Minnesota Hispanic AIDS Partnership
Steve Miller
HIV outreach, education, case management for Hispanic Americans
612/292-0117

Turning Point
Tony Gabriel
Education, outreach, CD treatment, case management for black Americans
612/374-3835

Metro HIV clinical programs

Clinic 42
Hanan Rosenstein, M.D., medical director
Leslie Johnson, case manager
612/863-5336

Group Health
Mary Ann Kish, M.D.
Cheryl Waldman, case manager
612/339-6585

Hennepin County Medical Center/ HIV Clinic
Margaret Simpson, M.D.
612/347-2705
Ray Ritchie and Robin Nelson, case managers
612/336-7285

Park Nicollet Medical Center
Scott Strickland, M.D.
612/927-3333

St. Paul-Ramsey Medical Center/ HIV Programs
Keith Henry, M.D.
Chris Sullivan, M.D.
Case management: Kathy McCabe
612/221-1280

United Hospital
Gary Kravitz, M.D.
612/224-4243

University of Minnesota Hemophilia Center
Roger Edson, M.D.
612/626-6455

HIV Clinic
Frank Rhame, M.D.
Jocelyn Archer, case manager
612/625-4680

Continued

Minneapolis Veterans Hospital
Joseph Thurn, M.D.
612/725-4430

Testing and counseling sites

Metropolitan Area

Indian Health Board
1315 East 24th Street
Minneapolis, MN 55404
612/721-9898

Red Door Clinic
525 Portland Avenue South
Minneapolis, MN 55415
612/348-6363

St. Paul Health Department
Room 111, 555 Cedar Street
St. Paul, MN 55101
612/292-7752

Greater Minnesota

Clay County Health Department
123 1/2 South 21st Street
Moorhead, MN 56560
218/299-5222

Duluth Community Health Center
2 East 5th Street
Duluth, MN 55805
218/722-1497

Olmsted County Health Department
1650 4th Street SE
Rochester, MN 55901
507/285-8338 or 507/285-8370

One to One Clinic
310 Bell Avenue
Mankato, MN 56001
507/348-6363

National Resources

AIDS Action Council
Federation of AIDS-related Organizations
2033 M. Street NW, Suite 801
Washington, DC 20036
202/293-2886

AIDS Treatment News
John S. James
PO Box 411256
San Francisco, CA 94141
215/255-0588

American Foundation for AIDS Research (AmFAR)
40 West 57th Street, Suite 406
New York, NY 10019
212/333-3118

American Red Cross
AIDS Education Office
1730 D. Street NW
Washington, DC 20006
202/737-8300

Centers for Disease Control
AIDS Activity, Bldg. 6, Room 274
1600 Clifton Road NE
Atlanta, GA 30333
404/639-2891

Computerized AIDS Information Network
1213 North Highland Avenue
Hollywood, CA 90038
213/404-7400, ext. 277

Gay Men's Health Crises
PO Box 274
132 West 24th Street
New York, NY 10011
212/807-6655

Gay Rights National Lobby/AIDS Project
PO Box 1892
Washington, DC 20012
202/546-1801

Hispanic AIDS Forum
c/o APRED
853 Broadway, Suite 2007
New York, NY 10003
212/870-1902

Mothers of AIDS Patients (MAP)
c/o Barbara Peabody
3403 E. Street
San Diego, CA 92128
619/234-3432

National AIDS Clearing House
PO Box 6003
Rockville, MD 20849-6003

National AIDS Hotline
800/342-2437 or 800/342-7514

National AIDS Network
729 8th Street SE, Suite 300
Washington, DC 20003
202/347-0390

National AIDS/Pre-AIDS Epidemiological Network
2676 North Halsted Street
Chicago, IL 60614
312/943-6600, ext. 424, 389

National AIDS Research and Education Foundation
54 10th Street
San Francisco, CA 94013
415/626-8784

National Association of People with AIDS (NAPWA)
PO Box 65472
Washington, DC 20035
202/483-7979

National Gay and Lesbian Task Force
80 5th Avenue
New York, NY 10011
800/221-7044

National Hemophilia Foundation
AIDS Activity Coordinator
Soho Bldg., Room 406
110 Greene Street
New York, NY 10012
212/219-8180

National Minority AIDS Council
300 I Street NE, Suite 400
Washington, DC 20002
202/544-1076

National Native American AIDS Prevention Center
1433 East Franklin Avenue
Minneapolis, MN 55404
612/872-8855

Project Inform
1965 Market Street, Suite 220
San Francisco, CA 94110
800/822-7422

San Francisco AIDS Foundation
333 Velancia Street, 4th Floor
San Francisco, CA 94103

Shanti Project
890 Hayes Street
San Francisco, CA 94117

Women's AIDS Network
707 San Bruno Avenue
San Francisco, CA 94117
415/821-7984

HIV in the Health Care Setting

Walk Carefully in this Confusing Legal Landscape

Mary E. Prentnieks, J.D.

AIDS raises a number of complex legal and ethical questions for physicians. May a physician refuse to treat an HIV-positive patient? Should physicians routinely test patients? Is informed consent required before HIV testing? What are the HIV reporting requirements? When does risk to a third party outweigh a patient's right to confidentiality?

The physician's legal responsibilities are not clear-cut. Many of the legal requirements regarding AIDS are based on case law and are likely to change with future legislation. In addition, momentum is building at both state and federal levels to pass laws mandating HIV testing of patients and health care workers under certain circumstances. The severity of sanctions included in proposed federal legislation—including criminal penalties—reflects the public's hysteria over AIDS.

In this confusing legal landscape, it is wise to seek legal counsel before making decisions. The following general discussion is intended to clarify issues related to AIDS. It is not legal advice.

Patients with AIDS

Does a physician have a duty to treat those infected with AIDS?

Health care providers have traditionally been free to accept patients as they see fit (although they may not abandon patients in emergencies or once a patient-physician relationship has been established). Despite this tradition, however, a health care provider's refusal to care for patients with AIDS or HIV may be a violation of antidiscrimination laws and in conflict with the opinion of the American Medical Association Council on Ethical and Judicial Affairs.

The council has stated that "a physician may not ethically refuse to treat a patient whose condition is within the physician's current realm of competence solely because the patient is seropositive. ... Physicians who are unable to provide the services required by AIDS patients should make referrals to those physicians or facilities equipped to provide such services."

> "Physicians who refuse to care for or who terminate care of HIV-infected patients are standing on shaky legal ground."

Although the AMA's ethical opinion does not permit discrimination based solely on a patient's seropositivity, there may be instances when a physician can justifiably refuse to treat a patient, such as when the physician believes he or she lacks the necessary training and skills to care for HIV-infected patients. A physician who is unable to provide services required by AIDS patients should make appropriate referrals to other physicians or facilities.

A number of federal, state, and local laws prohibit discrimination against the disabled. AIDS and HIV infection generally fit the statutory definition of disability, and HIV-infected individuals who are refused medical treatment may charge a physician for violation of antidiscrimination laws unless the physician is unable to make reasonable accommodations, which is rare, or unless treatment is contraindicated.

Physicians practicing in Minnesota must comply with the Minnesota Human Rights Act, the federal Rehabilitation Act of 1973 and, effective January 26, 1992, the Americans with Disabilities Act. Additionally, local ordinances ban discrimination against the disabled.

Individuals with AIDS or HIV infection who have been denied medical treatment primarily seek compensation through section 504 of the Rehabilitation Act of 1973. AIDS or HIV infection constitutes a handicap under that act, which applies only to programs and institutions that receive federal money, including Medicaid and Medicare program participants. According to a recent federal district court opinion, a physician who receives federal funds for treating any number of patients is a program participant under the Rehabilitation Act.

The Americans with Disabilities Act prohibits discrimination on the basis of disability in places of public accommodation. This act greatly expands federal discrimination law because it applies to everyone, not just those who receive federal money or participate in federally funded programs. Although it does not specifically address AIDS, it will likely be applied to the same disabilities covered by the Rehabilitation Act.

In summary, physicians who refuse to care for or who terminate care of HIV-infected patients are standing on shaky legal ground and may be liable for violation of the antidiscrimination laws. Physicians should seek legal counsel before refusing to provide or terminating such care.

Continued

Patient Testing

Should physicians routinely test patients?

The Centers for Disease Control (CDC) and other public health groups have recommended against general screening of patients for HIV infection, arguing that large-scale screening will give rise to a significant number of false-positive results, which would create difficult counseling issues. Testing is expensive, time-consuming, and often would not be completed before the needed health care services had to be performed. In addition, negative results in patients who are infected but have not seroconverted will lead to a false sense of security for health care providers as well as the patient.

In the past, the AMA has also found routine HIV testing unwarranted and inappropriate. However, at its June 1991 annual meeting, the AMA adopted recommendations that modified this position. As explained in an AMA Board of Trustees report, a broadened understanding of the epidemic suggests routine testing may extend the lives of persons infected with HIV and allow for more rigorous counseling and control of the disease. In addition, the report says, health care workers may believe that testing offers them greater protection, thereby encouraging them to enter or remain in health care areas with high exposure to HIV infection. Finally, according to the report, persons with HIV infection are adequately protected by antidiscrimination laws, and therefore, the benefits of knowing one's HIV status outweigh the detriments in the vast majority of cases.

The AMA House of Delegates concluded that hospitals, clinics, and physicians may adopt routine HIV testing based on their local circumstances, although such a program is not a substitute for universal precautions. Routine HIV testing should include appropriately modified informed consent and modified pre-test and post-test counseling procedures. (The AMA Board of Trustees plans to develop a simplified informed consent form by its December 1991 interim meeting.) Informed consent should include a statement respecting the patient's option to receive more information and/or counseling before deciding whether or not to be tested, as well as a statement that the patient should not be denied treatment if he or she refuses HIV testing, unless knowledge of the patient's HIV status is vital for providing appropriate treatment. In this instance, the physician may refer the patient to another physician for care. The AMA also adopted recommendations for notifying patients of HIV-antibody test results and for conducting full pre-test and post-test counseling with individuals who have concerns about possible exposure to HIV or who have a history of high-risk behavior.

> "The severity of sanctions included in proposed federal legislation reflects the public's hysteria over AIDS."

Is informed consent required for HIV testing of patients?

Generally, informed consent is required to test for HIV antibodies, but there is significant debate about whether common law requires it. On one hand, a blood test itself poses no significant medical risk to a patient. On the other hand, knowledge of HIV-seropositive status can have a significant effect on a person's life and can subject that person to discrimination.

The majority of states have adopted informed consent statutes to clarify requirements. Minnesota has not yet adopted a specific informed consent statute to deal with HIV-antibody testing in general health care situations, although the Legislature has enacted a law requiring informed consent for testing patients when emergency medical personnel may have been exposed to a patient's blood or body fluids.

A physician who performs an HIV-antibody test without providing sufficient information for a fully informed consent may be subject to a claim of negligence for any damages suffered by the patient. In addition, a physician who performs an HIV-antibody test without consent may be subject to a claim of battery, the unconsented touching of a person, which does not require injury for liability.

The traditional doctrine of informed consent requires that substantial *medical risks* must be explained to patients before they undergo treatment. Many state statutes now require that patients not only be informed of medical risks but also of *other adverse consequences that might befall them.* In Minnesota, doctors must disclose information that a reasonable person in the patient's situation would consider material in deciding whether or not to undergo treatment. Because Minnesota does not have an informed consent statute that covers HIV testing, it is difficult to determine what risks must be explained for the consent to be informed.

At a minimum, the test should be explained sufficiently to patients so they understand what it does and does not entail. Patients should be told the purpose of the test and the meaning of the results, the likelihood of a false-positive or false-negative result, and the benefits of early intervention. They should also be advised about the limits to confidentiality, including the fact that the results could be released to their insurance carriers. Finally, they should be warned of possible discrimination and other adverse consequences that may follow the test result, and they should be told of their right to refuse testing.

Counseling HIV-positive patients is essential. Physicians should explain to these patients the risk they pose to others and the steps they need to take to reduce this risk. Physicians should take post-test counseling seriously to avoid potential liability to other persons who might later become infected by the patient. The provider should offer the patient support in dealing with a positive test result or should give an appropriate referral.

To what state agencies are physicians required to report patients' HIV-positive test results?

Health care facilities and physicians are required to report all positive HIV-antibody test results to the Minnesota Department of Health. The commissioner of health must identify other persons at risk and determine necessary control measures, which may include notification and testing of those believed to be at risk.

The information collected by the Department of Health is not discoverable in a legal action but may be released as general statistics without individual identifiers. With the approval of the health commissioner, health data may be disclosed to assist the commissioner in locating or identifying a case, suspect case, or carrier; to alert persons who may be threatened by illness, as evidenced by epidemiological data; to control or prevent the spread of serious disease; or to diminish an imminent threat to the public's health. The Department of Health is not required to report to the Board of Medical Practice information about physicians who test HIV positive, but may report such information if an imminent threat to public health exists.

Centers for Disease Control Guidelines

- All health care workers (HCWs) should adhere to universal precautions, including the appropriate use of hand washing, protective barriers, and care in the use and disposal of needles and other sharp instruments. HCWs who have exudative lesions or weeping dermatitis should refrain from all direct patient care and from handling patient-care equipment and devices used in performing invasive procedures until the condition resolves. HCWs should also comply with current guidelines for disinfection and sterilization of reusable devices used in invasive procedures.
- Currently available data provide no basis for recommendations to restrict the practice of HCWs infected with HIV or HBV who perform invasive procedures not identified as exposure-prone, provided the infected HCWs practice recommended surgical or dental technique and comply with universal precautions and current recommendations for sterilization/disinfection.
- Exposure-prone procedures should be identified by medical/surgical/dental organizations and institutions at which the procedures are performed. (Note: The CDC has announced plans to prepare and release a list of exposure-prone procedures by mid-November.)
- HCWs who perform exposure-prone procedures should know their HIV-antibody status. HCWs who perform exposure-prone procedures and who do not have serologic evidence of immunity to HBV from vaccination or from previous infection should know their HBsAg status and, if that is positive, should also know their HBeAg status.
- HCWs who are infected with HIV or HBV (and are HBeAg positive) should not perform exposure-prone procedures unless they have sought counsel from an expert review panel and have been advised under what circumstances, if any, they may continue to perform these procedures. Such circumstances would include notifying prospective patients of the HCW's seropositivity before they undergo exposure-prone invasive procedures.
- Mandatory testing of HCWs for HIV antibody, HBsAg, or HBeAg is not recommended. The current assessment of the risk that infected HCWs will transmit HIV or HBV to patients during exposure-prone procedures does not support the diversion of resources that would be required to implement mandatory testing programs. Compliance by HCWs with recommendations can be increased through education, training, and appropriate confidentiality safeguards.

Does a physician have a legal duty to warn third parties of potential HIV transmission?

Generally, physicians are under legal obligation to keep all patient information confidential. One of the most significant exceptions to the general rule of confidentiality is health care workers' legal duty to breach confidentiality to protect others. This duty arises when a health care provider has knowledge that an HIV-positive person intends to have unsafe or high-risk sexual encounters or intends to share needles with other drug users whose identities are known to the provider. When confronted with these situations, a health care professional needs to do everything possible to warn the third parties without incurring legal liability. The physician needs to determine at what point the duty to warn outweighs the patient's right to confidentiality.

The American Bar Association has recently released guidelines to help programs and agencies formulate their own confidentiality policies. Policies developed from the guidelines should be reviewed by legal counsel to ensure they are consistent with local law.

Minnesota statute does not require, but expressly permits, a physician to report to the commissioner of health a person who is a health threat to others or who has engaged in noncompliant behavior. As long as the report is made in good faith, the person making the report is protected from liability in any civil, administrative, disciplinary, or criminal action. This statute is useful in instances where a physician is unaware of the identity of those who may be injured by the patient's behavior but is aware that the patient is engaging in behavior likely to transmit HIV.

Physicians with AIDS

Are physicians required to be routinely tested for HIV?

AMA guidelines recommend voluntary, *not* mandatory, testing of physicians. CDC recommendations respecting mandatory testing are somewhat unclear. Although the CDC guidelines expressly reject mandatory testing, they also state that a practitioner doing "exposure-prone" procedures should know his or her HIV status. The CDC is planning to publish a list of exposure-prone procedures in mid-November.

State epidemiologist Michael Osterholm believes hospitals and health care facilities concerned about their legal liability will most likely require HIV testing of their health care workers once the CDC publishes its list of exposure-prone procedures. Currently, however, health care facilities are not legally required to impose mandatory testing on their health care workers, nor are health care workers mandated by law to test themselves.

Interestingly, the Board of Medical Practice's Task Force on HIV Positive Physicians recently voted in favor of voluntary, rather than mandatory, testing of physicians who perform exposure-prone procedures. As a result of this recommendation, the board has adopted a plan for legislation that would allow voluntary testing of physicians who perform exposure-prone procedures but creates a strong incentive for regular testing. The Board of Medical Practice will seek public comment and input from other medical organizations before finalizing the plan, which it will ask the Legislature to implement.

Must HIV-infected physicians inform patients of their HIV status?

The AMA recommends that physicians who test HIV positive disclose their HIV-seropositive status to patients or refrain from invasive procedures that pose a risk of transmission. Similarly, CDC guidelines recommend that HIV-infected health care workers refrain from performing exposure-prone procedures unless they have sought counsel from an expert review panel and have been advised under what circumstances, if any, they may continue to perform the procedures. Such circumstances would include notifying prospective patients of the health care worker's seropositivity before performing exposure-prone procedures.

Physicians may have a legal duty to disclose their HIV-seropositive status to patients under the doctrine of informed consent. As discussed above in the context of patient testing, the purpose of informed consent is to protect individuals' rights to self-determination by disclosing any material risks of treatment. The risk is material when a reasonable patient would be likely to attach significance to it in deciding whether or not to submit to the treatment. Because an HIV-positive physician adds risk to the medical treatment, the patient's consent to treatment, without knowledge of the physician's seropositive status, may be ineffective.

> "A health care provider's refusal to care for patients with AIDS or HIV may be a violation of antidiscrimination laws."

At least one court has held that a patient must be informed of a physician's HIV-seropositive status before an invasive procedure is performed in order for the requirements of the informed consent doctrine to be met. A New Jersey court reasoned that state policy in favor of patients' rights outweighed the surgeon's right to perform an invasive procedure. According to the court, the "ultimate arbiter" of whether the patient should be treated invasively by an HIV-seropositive physician should be the fully informed patient because of the severity of the possible harm, even if the risk of transmission is very small.

Cases dealing with sexually transmitted diseases may also impose a legal duty to warn. In several cases, Minnesota courts have held that there is a legal duty to warn sexual partners of communicable diseases or to avoid contact. By analogy, a court may conclude that a physician may be negligent if he or she fails to warn a patient of the risk of HIV infection or, in the alternative, fails to avoid contact.

What are the reporting requirements of HIV-seropositive physicians?

The *Minnesota Board of Medical Examiners Update*, Spring 1991, presented the board's views on whether physicians must report their HIV status to the board. According to the newsletter, the Board of Medical Practice treats a physician's HIV-seropositive status like any other impairment and requires physicians to report their own HIV-seropositive status or knowledge of another physician's positive status to the board.

"As with any other disease or condition that degrades a physician's skill or a patient's safety, cases of HIV or Hepatitis B in a practicing physician must be reported to the Board of Medical Practice, and all other provisions of the Practice Act that deal with impairment apply," the newsletter stated.

Currently, a physician who is in a physician-patient relationship with an HIV-infected doctor is not obligated to report so long as he or she successfully counsels the infected physician to limit or withdraw from practice to the extent required by the impairment. However, the board's legislative plan would change the reporting requirement. It mandates that any physician, *including the treating physician*, who has knowledge that a physician is HIV or HBV positive must report that physician to the board. Failure to report would subject the physician to a civil penalty of up to $100 per day and other disciplinary action.

It remains unclear whether the board currently requires reporting of physicians at the point of seroconversion or when the physician becomes unable to safely care for patients because of symptoms of the disease. It is also unclear whether only physicians who engage in exposure-prone procedures should be reported to the board or whether all HIV-infected physicians should be reported so the board can then determine whether they are performing procedures that necessitate restrictions. The board is deliberating over these and other questions, and will be seeking comments on its legislative plan, including the requirement that the board be informed whenever any physician tests positive for HIV or HBV.

Information reported to the Board of Medical Practice remains confidential unless a stipulation or order is required to limit or restrict a physician's privileges. Stipulations and orders related to impairments are a matter of public record but are not published by the board. The board's legislative plan reflects the task force recommendation that reported information remain confidential unless a physician fails to comply with restrictions of practice, at which point the information would become public and publishable by the board.

Can physicians lose their privileges as a result of testing positive for HIV?

Hospitals and clinics now find themselves between the proverbial rock and a hard place. If patients are informed that a health care worker has tested positive for HIV, then the patients may go elsewhere, causing serious economic harm to the hospital or clinic as well as to the physician. Conversely, if the hospital or clinic does not inform patients or make adequate efforts to protect patients, it may be liable for any consequences resulting from transmission of the virus.

The appropriate response to this dilemma is to minimize patients' risk of infection. This can be partially accomplished through universal precautions, but also by identifying HIV-infected health care workers and giving them appropriate work assignments that exclude exposure-prone procedures.

A New Jersey court ruled that a hospital appropriately balanced the needs of patients with the right of a disabled ENT/plastic surgeon when the hospital required the surgeon to inform patients of his HIV-positive status or not perform surgery. After imposing a requirement of informed consent, the hospital then limited his privileges. The court found that restriction of privileges did not violate New Jersey's antidiscrimination law and reasoned that although the doc-

Current AMA Positions on HIV Testing

Routine Patient Testing

The AMA has adopted the following positions.

- Hospitals, clinics, and physicians may adopt routine HIV testing based on their local circumstances. Such a program is not a substitute for universal precautions. Local considerations may include:
  - likelihood that knowledge of a patient's serostatus will improve patient care and reduce HIV transmission risk;
  - prevalence of HIV in patients undergoing invasive procedures;
  - costs, liabilities, and benefits;
  - alternative methods of patient care and staff protection available to the patient.
- Routine HIV testing should include appropriately modified informed consent and modified pre-test and post-test counseling procedures. The Board of Trustees will develop a simplified, modified informed consent form by the 1991 AMA interim meeting. Informed consent should include the following information:
  - patient option to receive more information and/or counseling before deciding whether or not to be tested;
  - patient should not be denied treatment if he or she refuses HIV testing, unless knowledge of HIV status is vital to provide appropriate treatment; in this instance, the physician may refer the patient to another physician for care.
- All negative test results should be provided in a confidential manner accompanied by information on the meaning of these results and the offer, directly or by referral, of appropriate counseling.
- All positive HIV results should be provided in a confidential face-to-face session by a professional properly trained in HIV post-test counseling and with sufficient time to address the patient's concerns about medical, social, and other consequences of HIV infection.
- When an individual presents to a physician with concerns about possible exposure to HIV or when a history of high-risk behavior exists, full pre-test and post-test counseling procedures should be utilized.
- State medical associations should be encouraged to review and seek modification of state laws that restrict the ability of hospitals and other medical facilities to initiate routine HIV testing programs.

Testing of Health Care Workers and Patients

The AMA House of Delegates passed resolutions at the June 1991 annual meeting calling on the AMA to do the following:

- support HIV testing of physicians, health care workers, and students in appropriate situations;
- study the issues related to HIV testing of physicians, health care workers, and students, including specifying situations in which testing should be performed, the frequency of testing, and the relationship of such testing to licensure, professional liability insurance, granting of privileges, or any credentialing process, with report back at the 1991 interim meeting;
- support HIV testing of physicians, other health care workers, and patients consistent with testing for other infectious and communicable diseases; and
- encourage education of patients and the public about the limited risks of iatrogenic HIV infection.

tor's condition constituted a handicap, surgical privileges could be restricted if they posed a reasonable probability of substantial harm to others. Despite the slight risk of HIV transmission, the court was impressed by the magnitude of the ultimate injury should transmission occur.

Is financial protection available to HIV-infected physicians?

A clear need exists for an insurance product to help replace lost income and pay for medical care during the lifetime of an HIV-infected physician. Typically, disability insurance covers those who are physically unable to perform the duties of their occupations. An HIV-seropositive physician may exhibit no debilitating symptoms of the disease, but yet be discharged from his or her medical practice duties.

In response to the need for insurance, the AMA offers an HIV indemnity insurance plan in 14 states, including Minnesota. At the time of HIV diagnosis, the insured physician can receive a lump sum of $150,000, $250,000, or $500,000, depending on the insurance plan chosen. The insurance covers physicians who are not ill but are barred from performing invasive surgery because of HIV infection.

For questions about the HIV Indemnity Plan, which the AMA plans to market nationwide this fall, call 1-800/458-5736, weekdays from 9 a.m. to 4:45 p.m.

Acknowledgments

The author and *Minnesota Medicine* thank Konrad J. Friedemann and Gail Friend Brandt, attorneys for the law firm of Fredrikson & Byron, P.A., and Janet Waller, attorney for the law firm of Chestnut & Brooks, for use of seminar materials included in this article with their permission. Mr. Friedemann's and Ms. Brandt's seminar materials appeared in an outline prepared for an August 14, 1991, seminar sponsored by Fredrikson & Byron titled, "HIV Policies & Implications for Health Care." Ms. Waller's materials appeared in an outline prepared for a July 31, 1991, seminar sponsored by the Minnesota Institute of Legal Education titled, "Legal Implications of the AIDS Crisis." MM

If you have any questions specifically related to this article, please contact the author, Mary Prentnieks, MMA general legal counsel, at the Minnesota Medical Association, 2221 University Avenue SE, Suite 400, Minneapolis, MN 55414; 612/378-1875. Refer legal questions concerning your individual medical practice to your attorney.

"MANAGEMENT OF THE NON-HEALING SKIN ULCER"

TOPICS:

- Diabetic Foot Ulcers
- Venous Stasis Ulcers
- Decubitus Ulcer Management
- Soft Tissue Infection Osteomyelitis
- Growth Factors and Other New Technologies

KEYNOTE SPEAKER:

Marv Levin, M.D. author and editor of "The Diabetic Foot", and winner of the American Diabetes Association's *EDUCATOR OF THE YEAR* award.

WHEN:

Nov. 8, 1991 3–6 p.m.
Nov. 9, 1991 8–12 p.m.

WHERE:

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Bankers Who Make House Calls

Just What the Doctor Ordered

Susan Lackey and Kate Kelly

Physicians may be noticing that their bankers are a little friendlier these days. That's because, nationwide, doctors have become a marketing niche for banks.

Physicians have all the qualities bankers like to see: their income generally is easy to predict, they are in the higher-income brackets, and many run their own profitable practices. Bankers also know that physicians have little time to learn and manage the ins and outs of finance and, therefore, usually rely on a cadre of counselors, such as attorneys, accountants, insurance agents, investment advisers, real estate agents, and financial planners, to put their money to work.

Many banks today are eager to coordinate many, if not all, of these financial tasks and provide physicians with one-stop financial shopping. In addition, banks are continuing to design products and services to accommodate doctors' hectic schedules and numerous needs. But best of all from the physician's point of view are the banking specialists, usually called private bankers, who are not only knowledgeable in financial matters, but also understand the nature of a medical practice and will help physicians meet their financial objectives. Some private bankers will even make "house calls" or, at the very least, meet physicians at their offices.

Recognizing Physicians' Career Stages

Just as there is no one remedy for all illnesses, there is no one prescription for all physicians' financial health. Individual economic factors and financial goals differ from doctor to doctor. However, bankers have found some commonalities among doctors—all go through distinctive career stages with different banking needs. A banker views a physician's career in three stages: post-residency, mid-career, and pre-retirement/retirement.

> "Just as there is no one remedy for all illness, there is no one prescription for all physicians' financial health."

During the post-residency stage, bankers must be able to recognize and analyze the income and net worth potential of the beginning physician, whose personal financial statement will typically have a lower income, a negative net worth, and large student loan balances. A physician in this career stage may be investing in a practice, buying cars and a home, and starting a family. If the physician is buying into a practice, the banker should know the practice and be familiar with its purchase agreement. Fortunately, experienced bankers consider the earning potential for physicians when evaluating credit requests.

A physician in mid-career is usually well-established and has a higher, generally more stable income. Student loans have been paid down, and the doctor is building on earlier investments. The physician may also be involved in managing the practice and may be instrumental in its investment decisions and strategic planning. The needs of the mid-career physician include maximizing the return on investments while at the same time minimizing taxes, planning and paying for children's educations, and establishing a retirement program. Appropriate allocation of the doctor's financial resources is important during this stage, and attention must be paid to balancing investment portfolios.

Finally, in the pre-retirement/retirement stage, a physician is concerned about securing a sound retirement plan, preserving assets, and planning for his or her estate, and the physician's banker should be able to introduce low-risk, reasonably liquid investment options that produce a predictable income. A bank's trust area should be consulted for estate planning, and referrals may be necessary to other bank product specialists.

Are You Getting What You Need When You Need It?

How do you know you are getting all you should from your financial institution? To answer this question, ask yourself what you know about your bank's products and services and what services you must obtain from other sources. Then, find out what your banker knows about your practice.

Bankers who specialize in the medical profession should have the following characteristics:

1. Knowledge of the medical profession, which includes understanding the physician's financial needs as well as the needs of the practice.
2. Knowledge of applicable financial services and products and the ability to efficiently coordinate the delivery of those products.
3. Extensive banking experience and the ability to get things done.

Financial Profiles of Physicians

THE POST-RESIDENCY PHYSICIAN: "Dr. Anderson" completed her residency at the University of Chicago more than a year ago and has been employed by a reputable medical practice with eight other doctors in internal medicine with various subspecialties. This year she has the opportunity to become a shareholder in the practice. During this first year with the practice, she and her husband have not accumulated much in savings, they have $50,000 in student loans requiring monthly payments, and their financial statement shows a negative net worth. In addition, Dr. Anderson and her husband are planning to purchase their first house.

Dr. Anderson and her husband may want to meet with a private banker who deals with many of the other physicians in the same practice and who may also handle the practice's business banking needs. The banker should be familiar with the practice's reputation, financial outlook, and stock purchase agreement, as well as with Dr. Anderson's income potential. This information will be valuable in the credit approval process and in structuring the appropriate repayment schedule for the loan. Dr. Anderson and her husband can look to this banker to coordinate the mortgage information and to assist in planning for the purchase of a new home.

THE MID-CAREER PHYSICIAN: "Dr. Barker" is busy with his practice and raising two children, aged 13 and 17. Dr. Barker is 45 years old and has been a shareholder in the same practice for more than 15 years. He and his wife are enjoying a steady income from the practice. Their debt has dropped, and they are now more concerned about achieving high returns on their investments and planning for their children's educations and their own retirement. They want to be sure they are optimizing their budget and investment options. They have a banker, a stockbroker, an accountant, and an attorney who all give helpful advice. Now they need to consolidate this information and rely on someone to provide the variety of investment and credit options that would enable them to allocate their resources appropriately.

Dr. Barker may ask whether his bank has a private banking department with individuals who specialize in working with physicians. Dr. Barker may be pleasantly surprised to learn that one of the private bankers already works with several other physicians in his practice and that this banker is willing to meet with the Barkers at a time and location convenient for them. The banker will work to understand Dr. Barker's financial objectives for his family and practice and periodically will be in contact with the Barkers to introduce new banking services or discuss changes in their financial needs and objectives. The banker will understand the dynamics and demands of Dr. Barker's career and will present investment alternatives and recommend banking specialists who will help maximize the return on their money and help allocate their resources according to their financial objectives.

This same banker can help answer questions related to the practice's finances. For instance, the banker could help determine whether new equipment should be leased or purchased, or when it is cost-justified to use cash management services.

THE PRE-RETIREMENT/RETIREMENT PHYSICIAN: "Dr. Carter" is approaching age 65 and is excited about reaching retirement, when he will spend the summers in Minnesota and the winters in Florida. He takes pride in the fact that he and his wife have financed their children's educations and that they have successfully saved enough money for their retirement. All this took careful planning and close attention to their finances. Now, Dr. Carter is considering updating the will his attorney prepared years ago, and he is thinking through estate planning and tax-related questions. Dr. Carter and his wife want to work with a reliable financial professional who does not work on a commission and who will keep them informed of their maturing certificates of deposits and any significant changes in their financial options or investments.

A private banker can assist the Carters by working closely with the bank's trust department to ensure that the will and estate planning questions are handled satisfactorily. He can also stay in contact with Dr. Carter after he retires and is in Florida. This banker will coordinate lower-risk investments that provide a reasonable level of liquidity and a predictable income for Dr. Carter and his wife.

4. A flexible and accommodating approach to delivering services to busy medical professionals. This may mean making "house calls" or being "on call."

5. A creative approach to assessing customer needs and developing the appropriate solution.

6. Access to multiple product specialists.

Larger banks can offer a wide variety of products and services in addition to standard checking and savings and loan products. Your banker should be able to answer your questions and provide you with the information you need.

How Does Your Banker View You?

Many physician practices are considered small businesses. In these instances, a private banker can handle both a physician's business and personal financial needs. The physician benefits from this arrangement because the banker sees the doctor's whole financial picture and can offer information about products and services that can enhance the entire portfolio. When a practice grows to more than about 10 professionals, it will fall into the commercial category, requiring a commercial lender who works strictly with the business side. Assuming a physician's personal and business accounts remain with the same financial institution, the personal and commercial bankers can work together for the physician's benefit.

Physicians who deal with these financial specialists may find loans easier to secure because their bankers are experienced with evaluating physicians' credit worthiness. However, physicians will be expected to do some work on their own behalf. To help bankers understand their particular financial picture, doctors will periodically be asked to provide information. For example, in response to a loan request, a banker will ask a physician for a current personal financial statement (updated annually), an understanding of the purpose of the loan, personal tax returns, and completed loan forms. For mortgage requests, the physician may need to supply an appraisal and evidence of insurance.

For business loan requests, the banker may need the financial statements for the practice's past three years, a financial forecast, and copies of tax returns. Most practices need to provide personal guarantees of the partners or shareholders, particularly if these individuals are key to the ongoing viability of the practice or if the credit approval is based on their financial support. Closely held practices often need to provide personal guarantees.

Gathering these facts will be well worth the effort. As more and more banks devote energy to the medical profession, physicians can expect to witness the emergence of many conveniences, such as courier deposits, bank offices in or near medical centers, and more sophisticated investment options. MM

Susan Lackey is vice president and manager of the professional division in the Private Banking Center at First Bank, Minneapolis.

Kate Kelly, also with First Bank, is an assistant vice president in private banking and works with the large medical service providers.

On the Business Side

Minnesota Medicine invites you to submit informational articles on such topics as clinic management, personal and practice-oriented financial management, computer applications, taxes, and human resources laws. We prefer practical articles that include information Minnesota physicians can put to immediate use. Submit "On the Business Side" articles to George Lohmer, chief financial officer, Minnesota Medical Association, 2221 University Avenue SE, Suite 400, Minneapolis, MN 55414.

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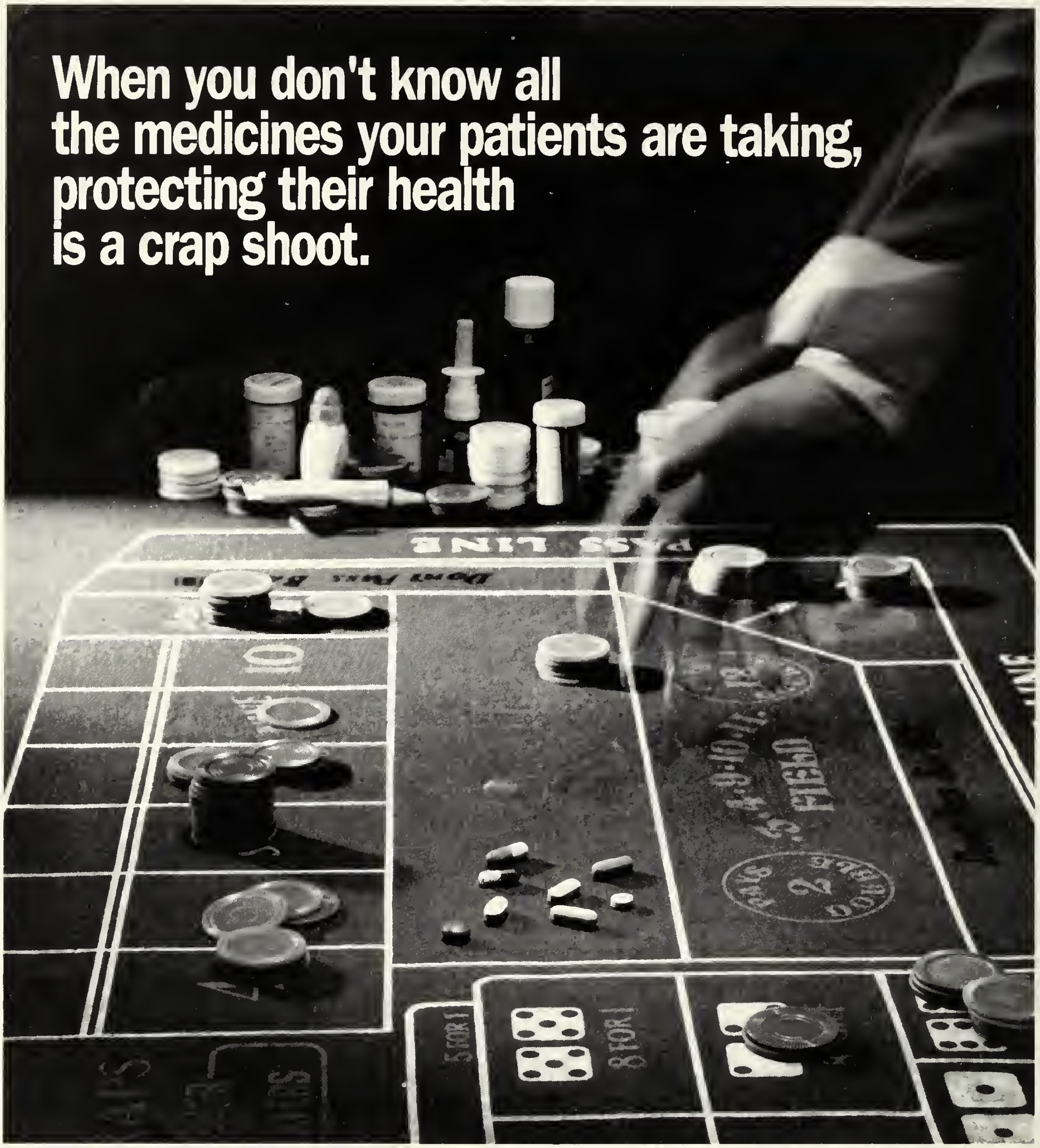
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Working Together to Wipe Out Racism

Thomas A. Stolee, M.D.

A silent affirmative nod was the answer I feared but knew I would hear. "Why couldn't your husband get employment? Was it because you are Indians?" She was an intelligent, respected nurse at a Northern Minnesota reservation; her husband an educated and skilled tradesman. Some years back they had left their home in Minnesota to seek a new life in a large city, but now they were back—victims of the economic disadvantage (to use a euphemism) of racism.

Racism is alive and well in our country, including Minnesota (see also *Minnesota Medicine*'s August 1991 cover story, "Out from the Shadow of Tuskegee: Fighting Racism in Medicine," page 15). Racism is more than an attitude. It is a pervasive fact of life with a supremely negative fallout that affects all of us—whatever our ancestry. Victims of racism suffer discrimination in employment—perpetuating the cycle of poverty. No laws on the books or under consideration will make a significant dent in the problem until we all look in the mirror and examine our attitudes, search our souls, and recall the ethical ideal of every major culture on the face of the earth; we call it the golden rule. I have looked in the mirror and have seen my own responsibility for deprivation of other people. Certainly I've done nothing intentional, but, nevertheless, I'm at fault.

"The most malignant aspect of racism is the destruction of that which we all hold dear—our self-image."

Through conversations with members of minority groups, I have come to realize that the most malignant aspect of racism is the destruction of that which we all hold dear—our self-image. If I am a Native American and I keep hearing negative things about Native Americans, eventually, I begin to believe them. In order to cope, many people turn to alcohol and other mood-altering drugs, thereby adding fuel to the poverty fire and creating many social metastases of which we are all familiar.

When I was a child we played "cowboys and Indians," and I remember the cowboys always won. It was some years until I had the good fortune of being introduced to Native American culture. Recently, I have learned what a wonderful culture it is. We have a lot to learn from Native Americans about the importance of process rather than the bottom line—about the ethics of what we do. It is with absolute awe that I have admired the murals done by Johnson Loud on the ceilings of the hospital and nursing home at the Red Lake Indian Reservation. One depicts Ojibwa cultural history, and one depicts the seven families of the Red Lake Tribe.

It is time that we, as physicians—as educated citizens—make a concerted effort to organizationally and individually deal with the problems of minorities since these problems directly affect their health and our profession. The triad of racism, poverty, and diminished self-image exists in Minnesota among our minority citizens and is compounded on Indian reservations by the same problems that affect rural health care elsewhere in the state.

The focus of my presidency will be the health problems of our minority citizens. You will hear more about this as time passes. I'll ask you for a real commitment of purpose; I'll ask you for time and ideas; and I'll ask you to welcome these folks into your practice as respected fellow members of our society. We have the responsibility, knowledge, ability, and respect needed to effect meaningful change. By working together, we can begin to break down the socioeconomic and health barriers facing our minority citizens. Isn't it possible that a little understanding, love, and commitment can save more lives than penicillin? Follow me down this road, and I guarantee you personal rewards that you may not think possible.

It is with dedication to purpose and profession salted by a whole lot of need for support and understanding that I begin this year as president of the Minnesota Medical Association. As an individual I have many limitations, but as a group we have very few. I sincerely appreciate the opportunity to serve, which I will sometimes do unsuccessfully, but never without enthusiasm and certainly never without our members' and their patients' best interests at heart. Former MMA President Dick Tompkins set a standard of excellence that may never again be matched, but I promise you my best shot. MM

Preventing Disease: Beyond the Rhetoric

Richard B. Goldbloom and Robert S. Lawrence, eds.
New York: Springer-Verlag, 1990

Reviewed by Charles R. Meyer, M.D.

The soaring costs of high-tech acute care medicine are high on the hit lists of government, insurers, and corporate managers. One of the least questioned solutions to this complex problem is preventive medicine. Regardless of other proposals, pundits from all sides of the health care debate endorse prevention. The "Smokey Bear" approach to health care is believed by most to save money and lives.

But does prevention work? If it works, can clinicians effectively teach it and utilize it in their practices? And if they can, will society encourage prevention by eliminating support for bad habits (such as federal government price supports for tobacco) and by promoting good habits (such as clean air laws)? "Preventing Disease: Beyond the Rhetoric" provides a state-of-the-art answer to the first question and an initial stab at the second. The answer to the third requires prophecy.

"Pundits from all sides of the health care debate endorse prevention. But does it work?"

"Preventing Disease" is the synthesis of conclusions reached by two separate task forces studying preventive medicine: the Canadian Task Force on the Periodic Health Examination and the U.S. Preventive Services Task Force. These groups convened to determine which preventive procedures are justified by current evidence. For each of the 90 preventable conditions selected, the task forces evaluated how common and dangerous the disease is, determined whether effective methods exist to discover and treat it at an asymptomatic stage, and studied the effects of intervening. In "Preventing Disease," members of the task forces discuss 40 topics related to perinatal medicine, prevention of childhood diseases, societal problems, skeletal and dental disorders, cancer, eye and ear disorders, diabetes mellitus, urinary tract disorders, and cardiovascular diseases.

"Preventing Disease" provides a factual foundation for using such commonly accepted preventive techniques as diet therapy for hypercholesterolemia, Pap smears for cervical cancer, mammography and breast exams for detecting early breast cancers, and screening for hypertension. It clearly delineates unproven issues: For example, does increased activity prevent coronary artery disease? Do routine sigmoidoscopy or larger scale occult blood screening programs improve survival from colorectal cancer? Do postmenopausal estrogens reduce cardiovascular mortality? Courting controversy, the book rejects certain procedures, such as routine electrocardiography and investigation of asymptomatic carotid bruits.

The book includes some topics that I believe fall outside the "mainstream" of preventive care. An entire chapter is devoted to the proposed protective effect of carotenoids in lung cancer. The chapter on the link between dietary fat intake and breast, colon, and prostate cancer is intriguing but not compelling enough to warrant 13 pages.

What does this book lack? Any gaps are primarily those in our knowledge. Indeed, preventive medicine's current lack of financial support is partly due to the lack of convincing evidence for screening and preventive strategies. Though not a "how-to" book, "Preventing Disease" does propose future directions and includes chapters on cost analysis, technology assessment, health risk assessment, and integration of prevention into primary care.

Does this book help the practitioner? While it is not a cookbook, it clearly describes what is known and what works and what doesn't work in prevention, and it acknowledges existing controversy. This book provides a solid framework for establishing future rules of the prevention game. "Preventing Disease" contributed to a recent article in the *Annals of Internal Medicine* detailing areas of agreement and disagreement and displaying them in graphic format.[1] Primary care physicians must determine for themselves what is reasonable and create their own prevention package. The December 1989 issue of *Minnesota Medicine* included an essay by a family physician who describes how he used an innovative strategy to integrate prevention into his community-centered practice.[2] It's time for more physicians to practice prevention and for more third-party payers to substitute dollars for rhetoric in its support. "Preventing Disease" is a good guide for the effort.

Charles R. Meyer is an internist at Consultants Internal Medicine in Minneapolis, Minnesota, and a member of the Minnesota Medicine *Advisory Committee.*

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2. Manahan WP. The community as the patient. Minn Med 1989;72(12):703-4.

People and Places Making Medical News

AMA

Image Boosting

The American Medical Association launched a national ad campaign in August intended to boost the image of physicians. The campaign includes ads in *Time*, *Newsweek*, and *U.S. News and World Report* profiling physicians who make a difference in their communities, such as Wisconsin physician Kevin J. Fullin, M.D., who works with battered women.

The AMA began the campaign after 69 percent of respondents in a recent survey agreed that "people are beginning to lose faith in their doctors." The percentage is up from 62 percent in 1982. The good news is that only 10 percent of respondents with a personal physician said they were losing faith in their own doctor, down from 15 percent in 1983.

People

U of M Teacher of the Year

Pediatric medical residents at the University of Minnesota recently named Mitchell J. Einzig, M.D., "Teacher of the Year" for the third consecutive year. Einzig is director of medical education at Minneapolis Children's Medical Center.

Each year, U of M medical residents present the Teacher of the Year award to faculty from hospitals affiliated with the university's pediatrics program.

HealthEast CEO Chairs CHC

Timothy H. Hanson, president and chief executive officer of HealthEast, has been named chairman and chief executive officer of the Council of Hospital Corporations, a nonprofit association of Twin Cities health care organizations that assists communities, government, and health care providers in formulating, implementing, and evaluating health care policies and management technologies. Hanson, who previously served as CHC treasurer, was appointed to a one-year term.

Group Health Management

John C. Butler, M.D., recently assumed new duties as head of the Department of General Internal Medicine for Group Health, Inc. Butler, who joined Group Health in February 1985, was unanimously recommended by the Internal Medicine Search Committee.

Group Health named Helen Imbernino director of Quality and Utilization Management. Imbernino, a registered nurse and certified adult nurse practitioner, has experience in quality assurance and utilization management from Harvard Community Health Plan and the Prudential Insurance Company of America.

Gordon Mosser, M.D., joined Group Health in August as associate medical director of Quality and Utilization Management. He was formerly corporate medical director for United HealthCare.

Richard Heinrich, M.D., joined Group Health as chairman of the Mental Health Department. He was most recently adjunct professor of psychiatry at the UCLA School of Medicine and chief of the Consultation-Liaison Psychiatry Service in Sepulveda, California.

Steven Radosevich, M.D., is now chief of Professional Services at Group Health's White Bear Lake Medical Center. Radosevich has practiced at Group Health's Maplewood Medical Center since 1988, where he also served as interim chief.

Caroline Mason, M.D., has been named chief of Professional Services at Group Health's new Inver Grove Heights Medical Center, which opens November 1, 1991. Mason has been a family physician with Group Health since 1990.

Kevin Haughton, M.D., has been named chief of Professional Services at Group Health's new Coon Rapids Medical Center, which is scheduled to open December 1. Haughton is a full-range family physician who joined Group Health in 1990 and has been working at the White Bear Lake Medical Center.

Carol Barnhart has been named clinic manager at the Group Health Bloomington Medical Center. She joined Group Health in 1990 as a laboratory supervisor and before that had 13 years' experience in health care management, most recently as a department manager with Lufkin/Smith-Kline Laboratories.

Parke-Davis Award Goes to Duluth Physican

The American Academy of Family Physicians announced in September that David A. Hutchinson, M.D., a part-time teacher and 1991 graduate of the Duluth Graduate Medical Education Program, received a Parke-Davis Teacher Development Award in September. Twelve $1,500 awards, which are sponsored by a grant from the Parke-Davis Company, are given each year to stimulate interest in teaching family practice part time after residency training.

Children's Hospital Director

Robert Telander, M.D., joined the Children's Hospital of St. Paul July 29 as physician director of surgical services. In the newly created position, he is helping develop the overall practice of pediatric surgery, is serving as liaison between nursing managers, pediatricians, and surgeons, and is performing educational outreach activities. Most recently, Telander was chief of surgery at the Fargo Clinic MeritCare, St. Luke's Hospital, and Children's Hospital MeritCare. From 1974 to 1989, he headed the Department of Pediatric Surgery at the Mayo Clinic.

United HealthCare Directors

United HealthCare Corp. named Walter F. Mondale and Elizabeth J. McCormack to the company's board of directors for terms expiring in 1993 and 1994, respectively. Walter F. Mondale, former vice president of the United States, is a partner in the law firm of Dorsey & Whitney, based in Minneapolis. McCormack has served as philanthropic adviser to Rockefeller Family & Associates since 1976.

McCally Joins Local CPA Firm

John F. McCally has joined McGladrey & Pullen in the Twin Cities as consulting manager of the firm's medical group consulting practice. Appointed state health commissioner February 1, McCally resigned the position in March after he was accused of trying to use his position to get a free membership at the St. Paul Athletic Club.

McGladrey & Pullen is the nation's ninth largest certified public accounting and consulting firm.

Places

U of M Planning Cancer Center

The University of Minnesota announced August 20 that it plans to construct a $30 million cancer center consisting of a four-story addition above the five-story Variety Club Heart and Research Center in Minneapolis. The center, which is scheduled to open in 1994, will consolidate about 100 cancer researchers who are currently at various locations around campus. A committee headed by Winston Wallin, chairman of the board for Medtronic, Inc., has already raised about two-thirds of the $30 million goal from corporate, foundation, and individual donors. The money will be used to build the center, hire additional specialists, and finance research.

U of M Starts Cancer Trials

The University of Minnesota announced August 22 that it will begin phase one trials of two cancer therapies. The first is a "magic bullet" treatment for leukemia consisting of an antibody to the cancer cell with a cell-poison attached. The treatment, known as B43-PAP, has been highly successful in wiping out rapidly spreading leukemia cells in laboratory mice. It will be given to patients who have tried all other leukemia treatments without success.

The second trials will involve a new way to use interleukin-2, a natural substance in the body first tested as a cancer therapy in the 1980s. The tests, which involve stimulating the patient's immune system to destroy cancer cells, will be directed at solid tumors, such as breast and colon cancers.

U of M Gets Ultra-Powerful MRI

The University of Minnesota Hospital has acquired a magnetic resonance imager (MRI) that is more than twice as powerful as most. Researchers at the university hope the machine, which initially will be used for research with volunteeers, will lead to new treatments and diagnostic techniques. The $5.2 million MRI is being financed through gifts and research grants.

UMD Center for Excellence

A Center for Excellence in American Indian Medical Education has been established at the University of Minnesota through efforts of the University of Minnesota-Duluth School of Medicine. The center, a multi-campus program designed to address the health care problems of American Indians, will be coordinated through UMD under direction of Gerald Hill, M.D.

Centers of excellence, created by Congressional legislation, are funded through the Department of Health and Human Services' Division of Disadvantaged Assistance. With a $700,000 grant award, Minnesota's center will carry out targeted recruitment of successful American Indian college students in Minnesota, Wisconsin, and Michigan; provide them with academic and non-academic assistance and support; and monitor their progress throughout their educational training. In addition, the university will offer a curriculum that includes structured and unstructured education in Indian health for American Indian students at its medical campuses in Duluth and Minneapolis.

New St. Paul Indian Health Clinic

The American Indian Health Care Association, a national health-assistance agency, is opening an Indian health clinic on St. Paul's East Side. The association received a state grant of $74,000 through the city of St. Paul to start the clinic. As *Minnesota Medicine* went to press, the clinic was scheduled to open by October 1.

New Eden Prairie Medical Clinic

EdenCenter Family Physicians, a primary care medical clinic staffed by physicians who practice at Fairview Southdale Hospital, opened August 19 at the EdenCenter Medical Building in Eden Prairie.

Formed in cooperation with Fairview and France Avenue Family Physicians, EdenCenter

Family Physicians will offer diverse medical services including pediatric care, gynecological care, and preventive medicine. It is the first of several physician groups scheduled to open offices in the new medical building. Others will include the Institute for Athletic Medicine; Orthopedic Surgeons, Ltd.; Southdale Pediatric Associates, Ltd.; The Minneapolis Clinic of Neurology, Ltd.; Minneapolis Otolaryngology—Head & Neck Surgery, P.A.; Edina Plastic Surgery, Ltd.; and Fairview Southdale Counseling Services.

HealthEast Opens Festival House

HealthEast Foundation announced it will fund a residential facility in St. Paul for patients and their families who are from outside the East Metro area and visiting a HealthEast hospital. The facility will be made out of a converted 12-unit apartment building on Shields Street near HealthEast Midway Hospital and will be called Festival House.

The HealthEast Foundation will aid the project with proceeds from its annual fund-raising event, the Festival of Trees, which will be held November 14-17 at the Landmark Center in downtown St. Paul.

Socioeconomics

Universal Health Plan Proposal

The Minnesota Council of HMOs proposed a plan September 10 to provide health insurance to all uninsured Minnesotans by charging increased premiums to those with insurance. The council, which includes the state's 10 largest HMOs, estimated that the proposal would cost premium-payers $380 million per year. Premiums would increase by about 2.5 percent the first year and 4.5 percent by 1997. The proposal would have to be passed by the 1992 Legislature to take effect. The plan proposes that:

- all Minnesota residents be covered by 1997,
- all employers be required to offer coverage to employees who work 20 or more hours per week,
- a 6 percent surcharge be charged for hospital services, the cost of which would be passed on to insurers,
- to help cover employees, subsidies be available to small employers with five or fewer workers,
- people earning less than 200 percent of the federal poverty level have subsidized premiums, and
- seniors applying for Medicare supplemental coverage be guaranteed acceptance in the universal plan.

National Care Coalition

Legislators from around the nation have joined the State Alliance for Universal Health Care, chaired by Rep. Paul Ogren, DFL-Aitkin, to push for universal health care for all Americans. The alliance, which will be based in St. Paul, was announced during the annual meeting of the National Conference of State Legislators in August. The alliance's goal, said Ogren, is to create a national model for lower-cost health care and push states to at least consider universal health care by 1993.

Duluth Offers Low-Cost Health Plan

Blue Cross and Blue Shield of Minnesota announced in August it will offer a low-cost health plan to 1,000 uninsured people who do not qualify for government programs and who have lived in the Duluth-Superior area for at least 12 months. It will offer the plan as a pilot program for two years.

Premiums will be based on enrollees' ability to pay and will range from $5 to $30 per month for individuals and $5 to $60 per month for families. Most of the services covered by the plan will be donated by institutions such as The Duluth Clinic and St. Mary's and Miller-Dwan hospitals. Premiums will help cover services or supplies not available from sponsors. Enrollees will be covered for up to two years and can receive up to $10,000 in donated care.

Twin Cities Hospital Profits

Hospital profits for 1990 are up over previous years but are still too low to promise a healthy future, according to industry analysts. Five of 23 Twin Cities hospitals lost money last year, while many others had profit margins less than the 4 percent needed to remain open, according to financial reports from the Minnesota Hospital Association.

St. Joseph's and Divine Redeemer hospitals in St. Paul and Metropolitan-Mount Sinai (now closed), Hennepin County, and Riverside medical centers in Minneapolis all reported losing money in 1990.

Most Twin Cities hospitals are either losing money or are not making enough to reinvest in products and services, said Vic Ellison, a spokesperson for the Council of Hospital Corporations. He attributed low profits to strong competition and heavily discounted services needed to attract HMO patients.

Docs Give Billions in Free Care

American physicians provided free care amounting to $2.9 billion in 1989, according to data gathered by the American Medical Association's Socioeconomic Monitoring System. Free care plus reduced-fee care totaled $6.6 billion for 1989. Adding bad debt figures obtained from a *Medical Economics* report brings total uncompensated care to $10.2 billion.

The proportion of physicians providing charity care has risen to 66 percent from 62 percent in 1988. Physicians providing such care spend an average 2.7 hours per week providing free care and 3.5 hours per week providing reduced-fee care.

Continued

Medical Research

Screening for Foreign Adoptees

University of Minnesota researchers recommend that all internationally adopted children, regardless of age, sex, or country of origin, be screened for such diseases as hepatitis B, tuberculosis, intestinal parasites, syphilis, anemia, cytomegalovirus, and AIDS. The recommendation, published in the August 15 *New England Journal of Medicine*, is based on tests done on 293 foreign adoptees at the university's International Adoption Clinic from 1986 to 1990. Serious illnesses were found in 57 percent of the children.

Margaret Hostetter, M.D., codirector of the university clinic and one of the article's authors, said the findings should not discourage people from adopting international children because most problems are easily treatable. No children in the study had AIDS.

More than 8,000 internationally adopted children enter the United States each year. Minnesota has the largest number of international adoptions per capita, with an average 700 per year.

The article's other authors are Dana E. Johnson, M.D., codirector of the International Adoption Clinic; Sandra Iverson, a nurse-practitioner at the university; Kathryn Dole, manager of the university's pediatrics rehabilitation services; William Thomas, assistant professor, School of Public Health; and David McKenzie, public health graduate student.

Innovations

Lyme Disease Test

Scientists from the Gundersen Medical Foundation in La Crosse, Wisconsin, have made a discovery that could lead to a Lyme disease vaccine and a more accurate test to detect the disease, according to a report in the September *Journal of Clinical Microbiology*. Steven Callister, chief researcher at Gundersen's Microbiology Research Laboratory, discovered that the body produces an antibody in response to Lyme disease that seems to destroy only the Lyme bacteria. A test to detect this antibody should be very specific, unlike currently available tests to detect Lyme disease, which are not specific and cause many false-positive results.

Callister said a vaccine would be possible if researchers can learn what stimulates production of the antibody. MM

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A Calendar of Continuing Medical Education Courses

Provided through the MMA Medical Education Subcommittee on CME Resources. For assistance with scheduling meetings or for information on future medical meetings and CME courses at the state and national level, please contact the MMA office: 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414; 612/378-1875. Information for each entry is arranged by date; name of program; primary sponsor; location; contact person.

OCTOBER 1991

Oct. 2-4 **Fourth International Symposium on Biliary Stone Therapy** Mayo Clinic and Mayo Foundation; Mayo Clinic, Rochester, MN. CONTACT: Rita Kunz or Jan Fleck, Mayo Clinic, 200 1st Street SW, Rochester, MN 55905; 507/284-2509 or 800/323-2688.

Oct. 2-4 **Internal Medicine Review: Cardiology, Hematology, Endocrinology** Office of CME, University of Minnesota Medical School; Mayo Memorial Auditorium, Minneapolis, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Oct. 3 **Hepatitis B—Contemporary Considerations and Its Prevention** Group Health Inc.; Minneapolis Metrodome Hilton, Minneapolis, MN. CONTACT: Debbie Bladine, Group Health Inc., 2829 University Avenue SE, Minneapolis, MN 55414; 612/623-8479.

Oct. 3-4 **Perinatal Challenges of the Nineties** Minnesota Perinatal Organization; Radisson Hotel, Duluth, MN. CONTACT: Barb Midtaune, MPO Coordinator, 3300 Oakdale Avenue North, 3E Perinatal Center, Minneapolis, MN 55422; 612/520-1570.

Oct. 3-4 **Annual Forensic Science Seminar** HCMC and Hennepin Faculty Associates; Hennepin County Medical Center, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Oct. 4 **Minnesota Gerontological Society's Fall Conference** Minnesota Gerontological Society; Sheraton Park Place Hotel, Minneapolis, MN. CONTACT: Monica Carlson, 612/932-5041; Jeanne Bader, 612/624-3904; or Ann Strelow, 612/520-0210, MGS Program Comittee co-chairs, Courage Center, 219 Pioneer Building, St. Paul, MN 55101.

Oct. 4 **Death and Dying: The Medical/Legal Dilemma, An Update on the Minnesota Perspective** Hennepin County Medical Society and Hennepin County Bar Association; location to be announced. CONTACT: Nancy Bauer or Laura Collins, Hennepin County Medical Society; 612/623-3030 or 800/882-7999.

Oct. 4 **A Family Affair: A Multidimensional Look at Families in the 90s** Health One Behavioral Health Services; West River Point Conference Center, Minneapolis, MN. CONTACT: Carrie Mueller, Health One Mercy Hospital, 4050 Coon Rapids Boulevard, Coon Rapids, MN 55433; 612/422-4529.

Oct. 4-5 **Cutaneous Laser Surgery** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, CME Office 14202, Abbott Northwestern Hospital, Minneapolis, MN 55407; 612/863-5461.

Oct. 5 **The Business of Medicine—Fourth Annual Resident Recruitment Fair** Health One; United/Children's Conference Center, St. Paul, MN. CONTACT: Sue Hance, Health One CME, 2810 57th Avenue North, Minneapolis, MN 55430; 612/574-7895 or 800/347-3627.

Oct. 8 **Biofeedback for Colorectal Disorders** Office of CME, University of Minnesota Medical School; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Oct. 8 **Ramsey Research Conference** St. Paul-Ramsey Medical Center; St. Paul-Ramsey Medical Center Amphitheater, St. Paul, MN. CONTACT: Bonnie Young, 640 Jackson Street, St. Paul, MN 55101; 612/221-3992.

Oct. 9-12 **Colon and Rectal Surgery** Office of CME, University of Minnesota Medical School; Mayo Memorial Auditorium, Minneapolis, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Oct. 11 **Annual Advances in Geriatric Care** HCMC and Hennepin Faculty Associates; Hennepin County Medical Center, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Oct. 11 **Current Clinical Cardiology & the 10th Annual Jesse E. Edwards Lectureship** St. Paul Heart Clinic/Health One CME; United Children's Conference Center, St. Paul, MN. CONTACT: Sue Hance, Health One CME, 2810 57th Avenue North, Minneapolis, MN 55430; 612/574-7895 or 800/347-3627.

Oct. 11-12 **Adolescent Sexuality: Issues for the 1990s** Office of CME, University of Minnesota Medical School; Holiday Inn Downtown, Minneapolis, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Oct. 11-12 **Endoscopic Sinus Surgery** Office of CME, University of Minnesota Medical School; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar,

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Oct. 11-12 **Advanced Laparoscopic Abdominal Surgery Seminar** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, CME Office 14202, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

Oct. 12 **Pulmonary Update for Primary Care Physicians** Mayo Clinic/Mayo Foundation; Mayo Clinic, Rochester, MN. CONTACT: Rita Kunz or Jan Fleck, Mayo Clinic, 200 1st Street SW, Rochester, MN 55905; 507/284-2509 or 800/323-2688.

Oct. 14-15 **Advanced Trauma Life Support (ATLS)** Health One; United Children's Conference Center, St. Paul, MN. CONTACT: Sue Hance, Health One CME, 2810 57th Avenue North, Minneapolis, MN 55430; 612/574-7895 or 800/347-3627.

Oct. 14-18 **Radiology 1991: Cardiovascular and Interventional Radiology** Office of CME, University of Minnesota Medical School; Hyatt Regency Hotel, Minneapolis, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Oct. 17 **Long Term Follow Up of Patients with Malignancy** Group Health Inc.; Minneapolis Metrodome Hilton, Minneapolis, MN. CONTACT: Debbie Bladine, Group Health Inc., 2829 University Avenue SE, Minneapolis, MN 55414; 612/623-8479.

Oct. 17 **Self-Injurious Behavior: Issues and Strategies for Intervention** Hennepin County Medical Center; Scanticon Minneapolis Conference Center and Hotel, Minneapolis, MN. CONTACT: Crisis Home Program, Hennepin County Medical Center, 701 Park Avenue, Minneapolis, MN 55415; 612/347-6407.

Oct. 18 **Current Topics in Neurology & Psychiatry** HCMC and Hennepin Faculty Associates; Minneapolis Athletic Club, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Oct. 18 **Antimicrobials in the '90s: Expanded Options for Effective Patient Care** Office of CME, University of Minnesota Medical School; University of Minnesota Health Sciences Medical Center, Minneapolis, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Oct. 18 **Exploring the Interface Between Asian and Western Health Care Practices** St. Paul-Ramsey Medical Center; Holiday Inn East, St. Paul, MN. CONTACT: Bonnie Young, 640 Jackson Street, St. Paul, MN 55101; 612/221-3992.

Oct. 18-19 **Front Line Neurology: Primary Care Management of Patients with Neurological Problems** Abbott Northwestern Hospital; Marriott City Center, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW

Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

Oct. 18-19 **Lasers in Orthopedic Surgery** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, CME Office 14202, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

Oct. 19 **Fifth Annual Tutorial in Pediatric Cardiology for the Primary Practitioner** The Children's Heart Clinic; Minneapolis Children's Medical Center, Minneapolis, MN. CONTACT: Harold Katkov, M.D., The Children's Heart Clinic, 2545 Chicago Avenue, Suite 106, Minneapolis, MN 55404; 612/871-4660.

Oct. 19 **Geriatric Seminar** Group Health Inc.; Minneapolis Metrodome Hilton, Minneapolis, MN. CONTACT: Debbie Bladine, Group Health Inc., 2829 University Avenue SE, Minneapolis, MN 55414; 612/623-8479.

Oct. 20 **ENT for Primary Care Physicians** Mayo Clinic/Mayo Foundation; Leighton Auditorium, Mayo Clinic, Rochester, MN. CONTACT: Rita Kunz or Jan Fleck, Mayo Clinic, 200 1st Street SW, Rochester, MN 55905; 507/284-2509 or 800/323-2688.

Oct. 24-25 **Emergency Medicine for Primary Care Physicians** St. Paul-Ramsey Medical Center, Holiday Inn East, St. Paul, MN. CONTACT: Bonnie Young, 640 Jackson Street, St. Paul, MN 55101; 612/221-3992.

Oct. 25 **Thrombolytic Therapy in Acute MI** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

Oct. 25-26 **Fourth Annual New Ulm Fall Seminar** Sioux Valley Hospital/Health One; Sioux Valley Hospital, New Ulm, MN. CONTACT: Sue Hance, Health One CME, 2810 57th Avenue North, Minneapolis, MN 55430; 612/574-7895 or 800/347-3627.

Oct. 25-26 **Symposium on Facial Malignancy & Reconstruction** Office of CME, University of Minnesota Medical School; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Oct. 26 **Lung Disease: Advances in Diagnosis and Treatment-1991** Midwestern Heart Lung Clinic, Dr. Gannon, Satterfield, Anderson, and Tell; Hyatt Regency Hotel, Minneapolis, MN. CONTACT: Wendy K. Wolf, Coordinator, 2545 Chicago Avenue, Suite 611, Minneapolis, MN 55404; 612/871-4771.

NOVEMBER 1991

Nov. 1 **Upper Midwest Sleep Society Meeting** HCMC and Hennepin Faculty Associates; St. Paul Hotel, St. Paul, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

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September 10	**"Current Management of Hypertension"** presented by Morris Davidman, MD
September 24	**"Controversies in Thrombolytic Therapy"** presented by Daniel Fintel, MD
October 8	**"Depression"** presented by Victoria Buoen, MD
October 22	**"Indication for Electrophysiology Studies"** presented by Gregory A. Granrud, MD
November 5	**"Lipids"** presented by Peter H. Jones, MD
November 19	**"Epilepsy-Surgical Intervention"** presented by John Gates, MD
December 3	**"Evaluation of Patients for Cosmetic Surgery"** presented by Peter Vogt, MD

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Nov. 1 **Primary Care Management of Patients with Implantable Defibrillators** Abbott Northwestern Hospital; location to be announced. CONTACT: Cathy Kohn, Office of CME, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

Nov. 1-2 **Lasers in Gynecology: An Advanced Seminar** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, CME Office 14202, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

Nov. 2 **Teen Program Seminar (Pediatric and Mental Health Topics)** Group Health Inc.; Minneapolis Metrodome Hilton, Minneapolis, MN. CONTACT: Debbie Bladine, Group Health Inc., 2829 University Avenue SE, Minneapolis, MN 55414; 612/623-8479.

Nov. 2-3 **1991 Gynecologic Review for Primary Care Physicians** Mayo Clinic/Mayo Foundation; Mayo Clinic, Rochester, MN. CONTACT: Rita Kunz or Jan Fleck, Mayo Clinic, 200 1st Street SW, Rochester, MN 55905; 507/284-2509 or 800/323-2688.

Nov. 7 **Reproductive Toxicology** Group Health Inc.; Minneapolis Metrodome Hilton, Minneapolis, MN. CONTACT: Debbie Bladine, Group Health Inc., 2829 University Avenue SE, Minneapolis, MN 55414; 612/623-8479.

Nov. 7-8 **Medical Intensive Care Conference** HCMC and Hennepin Faculty Associates; Hennepin County Medical Center, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Nov. 8 **Pediatric Orthopedics/Rheumatology for the Primary Care Practitioner** Minneapolis Children's Medical Center; Massie Moos Auditorium Education Building, Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Kathy Ingerson, Minneapolis Children's Medical Center, 2525 Chicago Avenue South, Minneapolis, MN 55404; 612/863-5884.

Nov. 8 **E.T. Bell Fall Pathology Symposium** Office of CME, University of Minnesota Medical School; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Nov. 8-9 **Symposium on Sports Medicine** Mayo Clinic/Mayo Foundation; Mayo Clinic, Rochester, MN. CONTACT: Rita Kunz or Jan Fleck, Mayo Clinic, 200 1st Street SW, Rochester, MN 55905; 507/284-2509 or 800/323-2688.

Nov. 9 **Third Annual Health One Oncology Conference** Health One; Marriott City Center Hotel, Minneapolis, MN. CONTACT: Sue Hance, Health One CME, 2810 57th Avenue North, Minneapolis, MN 55430; 612/574-7895 or 800/347-3627.

Nov. 12 **Bloodborne Pathogen Exposure in the Workplace** Midwest Center for Occupational Health & Safety; Holiday Inn East, St. Paul, MN. CONTACT: Registrar, Continuing Education, Midwest Center for Occupational Health & Safety, 640 Jackson Street, St. Paul, MN 55101; 612/221-3992.

Nov. 14 **Diabetes Management—New Technology** Group Health Inc.; Minneapolis Metrodome Hilton, Minneapolis, MN. CONTACT: Debbie Bladine, Group Health Inc., 2829 University Avenue SE, Minneapolis, MN 55414; 612/623-8479.

Nov. 14-16 **Annual Primary Care Medicine Conference** St. Paul-Ramsey Medical Center; Holiday Inn East, St. Paul, MN. CONTACT: Bonnie Young, 640 Jackson Street, St. Paul, MN 55101; 612/221-3992.

Nov. 14-16 **Nutrition and Diabetes—From Theory to Practice** International Diabetes Center; International Diabetes Center, Minneapolis, MN. CONTACT: Cindy Poppitz or Arlene Monk, R.D., International Diabetes Center, 5000 West 39th Street, Minneapolis, MN 55416; 612/927-3393.

Nov. 15-16 **Advanced Laparoscopic Abdominal Surgery Seminar** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, CME Office 14202, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

Nov. 15-16 **Sexual Attitude Reassessment Seminars (SAR)** Program in Human Sexuality; Holiday Inn Metrodome, Minneapolis, MN. CONTACT: SAR Coordinator or Secretary, Program in Human Sexuality, FMC Building, 1300 South Second Street, Minneapolis, MN 55454; 612/625-1500.

Nov. 19 **Pre-Hospital Advanced Burn Life Support** St. Paul-Ramsey Medical Center; Holiday Inn East, St. Paul, MN. CONTACT: Bonnie Young, 640 Jackson Street, St. Paul, MN 55101; 612/221-3992.

Nov. 20 **Pre-Hospital Advanced Burn Life Support** St. Paul-Ramsey Medical Center; Holiday Inn East, St. Paul, MN. CONTACT: Bonnie Young, 640 Jackson Street, St. Paul, MN 55101; 612/221-3992.

Nov. 21 **Seventh Ramsey Trauma Conference** St. Paul-Ramsey Medical Center; Holiday Inn East, St. Paul, MN. CONTACT: Bonnie Young, 640 Jackson Street, St. Paul, MN 55101; 612/221-3992.

Nov. 22-23 **Lasers in Orthopedic Surgery** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, CME Office 14202, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

DECEMBER 1991

Dec. 5 **Tumor Markers and Screening** Group Health Inc.; Minneapolis Metrodome Hilton, Minneapolis, MN. CONTACT: Debbie Bladine, Group Health Inc., 2829 University Avenue SE, Minneapolis, MN 55414; 612/623-8479.

Dec. 5-7 **Annual Cardiopulmonary Medicine Update** St. Paul-Ramsey Medical Center; Holiday Inn East, St. Paul, MN. CONTACT: Bonnie Young, 640 Jackson Street, St. Paul, MN 55101; 612/221-3992.

Physician Opportunities and Miscellaneous Listings

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Family Physician: Dynamic 14-physician, two-PA, three-office, single-specialty practice in northwest Minneapolis suburbs seeking additional associate, BC/BE; ob available. Competitive salary, full benefits, reasonable call and hospital rounds schedule. Contact: Dr. Diane Shuck, 612/537-8405; or Mark Pottanger, 612/537-8475, Northwest Family Physicians. (*R)

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Bemidji, Minnesota: Excellent opportunities for well-trained physicians. We are seeking BC/BE physicians in family practice, ophthalmology, pediatrics, and otolaryngology to join a young 30-physician multispecialty group practice located in northern Minnesota. Competitive salary guarantee plus incentive first year and excellent benefits. An excellent opportunity for a physician to enjoy practice in the center of hunting, fishing, and clear air. Please respond with CV to: C.C. Lowery, Administrator, Bemidji Clinic-MeritCare, 1233 34th Street NW, Bemidji, MN 56601; 218/751-1280. (R)

Internist to join a progressive 13-physician group practice. Rural college town 30 miles from St. Paul, Minnesota. New clinic and constructing new hospital. Contact: Robert B. Johnson, M.D., River Falls, WI 54022; 715/425-6701. (*9/91-R)

Urgent Care/Primary Care physicians for over 90 group positions in metropolitan Phoenix/Tucson, Arizona. Excellent compensation/partnership opportunities. Other quality positions nationwide. Send CV or call: Mitch Young (MM), PO Box 1804, Scottsdale, AZ 85252; 602/990-8080. (*1/90-R)

Mankato: FP partner to join four board-certified family physicians, ages 34-43, in fast-growing, full-range practice. Ob optional. Population 40,000+. Seventy miles to Twin Cities. Four colleges nearby. Subspecialty consultation readily available on hospital staff. Academic appointment available. Call: Tony Giefer, M.D., 507/387-8231. (8/91-R)

Family Physicians: Well-established south suburban Minneapolis family practice group seeks associates part/full time to staff day clinic. Excellent call schedule, salary, and fringe benefits. Also seeking locum tenens to staff PT/FT Urgent Care Centers and/or day clinic. Contact: Administration, Family Physicians, P.A., 612/435-4125, or send inquiries to Suite 100, 14050 Nicollet Avenue South, Burnsville, MN 55337. (*9/89-R)

Mankato Clinic, Ltd. is seeking BC/BE physicians in the following specialties: dermatology, invasive cardiology, ob/gyn, oncology/hematology, pulmonary medicine, vascular surgery, family practice, pediatrics, and general internal medicine. The Mankato Clinic is a 43-doctor multispecialty group practice in south-central Minnesota with a trade area population of +200,000. Guaranteed salary first year, incentive thereafter with full range of benefits and liberal time off. For more information call: Roger Greenwald, Administrator, or Dr. B.C. McGregor, 507/625-1811, or write: 501 Holly Lane, Mankato, MN 56001. (6/90-R)

Family Practitioner to join a progressive 13-physician group practice. Rural college town 30 miles from St. Paul, Minnesota. New clinic and constructing new hospital. Contact: Robert B. Johnson, M.D., River Falls, WI 54022; 715/425-6701. (*9/91-R)

BC/BE Family Practice and Ob/Gyn Physician: Excellent opportunity to join well-established, progressive, 20-physician multispecialty group located in an economically sound community of 20,000 (drawing area of 40,000), 65 miles south of the Twin Cities. Full membership after one year. Competitive salary and fringe benefits package. Contact: Ed Durst, M.D., or Terry Tone, Administrator, 134 Southview, Owatonna, MN 55060; 507/451-1120. (8/91-R)

Forest Lake Doctor's Clinic is seeking a BC/BE family physician, pediatrician, ob/gyn, and internist to join 10-physician multispecialty group. Located 25 miles north of Minneapolis-St. Paul in progressive community with excellent schools, many beautiful lakes, recreational activities, golf, fishing, boating, skiing. Local hospital directly across street. Contact: Dr. Harvey J. Frank or Dr. Doug Sill, 121 SE 11th Avenue, Forest Lake, MN 55025; 612/464-7100. (4/90-R)

Oxboro Clinics, a large, progressive, multispecialty practice with offices in Bloomington and Burnsville, offers outstanding physician opportunities.

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- **Obstetrics/Gynecology**
- **Urgent Care**

For more information, contact:

Jennifer J. Mitchell
Fairview Physician & Clinic Services
600 West 98th Street, Suite 390
Bloomington, MN 55420
(612) 885-6225
or toll free 1-800-842-6469

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Family practice group of four Board Certified physicians and a nurse practitioner seek two more family practitioners. Well established and busy practice located in the beautiful lake region of North Central Minnesota. Guaranteed salary, ample vacation, conference allowance, and a four day work week.

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Family Physician: Tired of call? Want predictable hours? Full-time physician needed to work three days per week in our outpatient family practice clinics. One position open immediately. Salary plus bonus and benefits package including malpractice insurance. Contact: Todd Patton, M.D., or William Wenmark, CEO, c/o NOW Care Medical Centers, 13031 Ridgedale Drive, Minneapolis, MN 55343; 612/593-9010. (5/90-R)

Downtown Office Space for Rent: Physician in the Medical Arts Building, 825, wishes to sublet to another physician on a part-time basis for the purpose of sharing overhead expenses. Call: 612/370-0553. (6/90-R)

Community Health Center, Inc. / North Shore Lake Superior is currently seeking BC/BE physicians in the following specialties: family practice and general internal medicine, to join busy practice in primary care clinic of four family physicians with consulting psychiatrist, ophthalmologist, general surgeon, and orthopedic surgeon. Advantages of living in a small town while being only 22 miles from Duluth metro area. Contact: Lee Cohen or Steve Bjorum, Administrator, Community Health Center, Inc., 1010 Fourth Street, Two Harbors, MN 55616; 218/834-7207. EOE/AA. (8/91-R)

Olmsted Medical Group is currently seeking BC/BE physicians in the following specialties: general surgery, family practice, emergency medicine, pediatrics, and ob/gyn. Excellent opportunity for well-trained physicians to join a 50+ physician multispecialty group in an established, progressive practice. In addition to the recently expanded main office in Rochester, Minnesota, the group operates eight branch offices in southeastern Minnesota. Affiliate hospital recently underwent complete renovation and expansion. Competitive salary/benefits package includes malpractice insurance, flexible benefits plan, 401(k) and profit sharing, and relocation assistance. Send CV to: Olmsted Medical Group, Attn: Susan Schuett, 210 Ninth Street SE, Rochester, MN 55904. (8/90-R)

Lake City, Minnesota: Family physician BC/BE needed to join three other FPs in progressive, growing practice on Lake Pepin/Mississippi River in southeastern Minnesota. Excellent first-year salary/benefits in a scenic community with multiple recreational opportunities. Contact: D.D. Pflaum, M.D., 303 South Washington, Lake City, MN; 612/345-3318. (8/90-R)

Family Physician BC/BE: Immediate opportunity to join family practice clinic in Minneapolis. Practice will allow part-time or full-time schedule. Competitive salary and benefits. Interested candidates send CV to: Jean Burns, 10501 Wayzata Blvd., Minnetonka, MN 55343; 612/544-2605. (3/91-R)

Wisconsin: 120-physician multispecialty clinic in the Fox River Valley of northeastern Wisconsin desires two BC/BE pediatricians to join department of 15 BC/BE pediatricians. Excellent compensation and benefits package, leading to shareholder status after two years. The community offers a superb recreational, cultural, and family environment in which to practice. For information please call or write: Howard Kidd, M.D., La Salle Clinic, 411 Lincoln Street, Neenah, WI 54956; 414/727-4276. (3/91-R)

Family Physician wanted to join three board-certified M.D.s in well-established, expanding group practice. Weekend ER coverage. No buy-in. Financial package hard to beat. Enjoy a progressive, rural city within easy reach of St. Cloud and Minneapolis. Contact: Dr. Jim Mohs, Melrose Clinic, 603 West Main Street, Melrose, MN 56352; office, 612/256-4228; home, 612/256-3488. (4/91-R)

Family Practitioner: Community of 2,000, 50 miles northeast of Minneapolis/St. Paul, seeks additional family practitioner. Located on the St. Croix River and Minnesota border. Practice consists of 13 family practitioners, two internists, two general surgeons, and one orthopedic surgeon. Many specialists available on a part-time basis. Attached to a 90-bed hospital with comprehensive services available. Very stable medical group with pleasant working conditions in a continuous growth mode. Guaranteed first-year salary with second-year partnership. Fringes include excellent retirement package and auto. Contact: Lenny Libis, Administrator, at 715/483-3221. 6-10/91

Mora, Minnesota—Family Physician needed to join a seven-member FP group. We are a well-established, expanding practice and offer competitive salary and benefits package with partnership available. We have JCAHCO-accredited hospital, on-site consultations from numerous specialty disciplines, satellite offices located in Pine City and Hinckley. Mora is a progressive community located 65 miles north of the Twin Cities with an excellent school system and many cultural and recreational opportunities within easy access. Contact: Larry J. Brettingen, M.D., 224 Seventh Street, Mora, MN 55051; 612/679-1340. 6-10/91

Physician: BC in emergency medicine, experienced in FP (no ob), and licensed in Minnesota, South Dakota, Wisconsin, available for locum tenens coverage. Reply to: Minnesota Medicine (850), 2221 University Avenue SE, Suite 400, Minneapolis, MN 55414. (5/91-R)

Midwest Full-spectrum Lighting: 612/721-1960. Great quality long-lasting lights for examining patients, operating, reading, or paperwork. Fluorescent, incandescent reflectors available. *5-10/91

Internal Medicine, Pediatrics, and Dermatology practice opportunities available at the Faribault Clinic. The Faribault Clinic is a multispecialty group practice of 19 physicians. Faribault is located 50 miles south of Minneapolis on I-35. For more information contact: Ray W. Wood, M.D., or Ken Smith, Administrator, 924 NE First Street, Faribault, MN 55021; 507/334-3921. (4/90-R)

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- Oncology/ Hematology
- Invasive Cardiology
- Family Practice
- Gastroenterology
- Ophthalmology

For more information call:
Roger R. Greenwald, Administrator, or
Byron C. McGregor, M.D., President
(507) 625-1811 (800) 657-6944

Stillwater: Multispecialty group with emphasis on primary care seeking BC/BE family physician and internist. Scenic location with excellent school system, supportive medical community with strong local hospital, competitive salary and benefits. Send CV to: Jon Petersen, St. Croix Valley Clinic, 921 Greeley, Stillwater, MN 55082; 612/439-2215. (6/91-R)

Family Physician wanted to join five-physician, two-P.A., two-site family practice group in St. Anthony and Shoreview. Ob available. Competitive salary, benefits package, and call schedule. Contact: Gerald Pitzl, M.D., Silver Lake Clinic PA, 612/788-9251. (7/91-R)

Vacations: Marco Island, Florida. Elegantly decorated 2br/2ba condo with gulf view. Miles of white sandy beach. Tennis, pool, other amenities. $2,700/mo., December-April; $1,500/mo. rest of the year. K. Hiduchenko, M.D., 612/339-1184. 3-10/91

General Surgeon: Five-man family practice group seeks surgeon. Only clinic in city of 8,000, one hour from Minneapolis. Position should generate adequate salary and lots of family time. Write: Minnesota Medicine (853), 2221 University Avenue SE, Suite 400, Minneapolis, MN 55414. (8/91-R)

Wadena, Minnesota: Beautiful central Minnesota is home to the Wadena Medical Center, a five-physician group, and Tri-County Hospital. A scenic three-hour drive from Minneapolis. Family physicians to do obstetrics. Contact Dr. Matt Yelle, 218/631-1360, or Jim Lawson, Administrator, 218/631-3510. You'll not want to pass up this attractive place and offer. (8/91-R)

Ideal Internal Medicine Practice: Excellent opportunity for BC/BE internist to establish a prosperous practice. Progressive 107-bed community hospital with a medical staff of 45 physicians and a service-area population of over 45,000. Vibrant Northern Michigan community with all summer and winter recreational activities. Very competitive first-year guarantee with benefits. Send CV or contact: John Schon, Administrator, Dickinson County Hospitals, 400 Woodward Avenue, Iron Mountain, MI 49801; 800/323-8856. 2-11/91

Family Practice Physician wanted to join a 26-physician, multispecialty, primary-care clinic located across from North Memorial Medical Center, a progressive, modern, and independent hospital in Robbinsdale, Minnesota. Our medical group includes 12 family practice physicians. Top salary and benefits package. Three contemporary offices located within seven miles of each other. Positions available immediately and in June 1992. Please contact Tom Harrer, Administrator, North Clinic, 3366 Oakdale Avenue North, Robbinsdale, MN 55422; telephone: 612/588-4625. 3-10/91

North Clinic
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Family Practice

A 26 physician multispecialty primary care clinic located next to North Memorial Medical Center, a progressive and modern hospital in Robbinsdale (a NW suburb of Minneapolis). A very competitive salary and benefit package. Three contemporary offices located within seven miles of each other. Practice with 11 other family practice physicians in this medical group. To begin now and in July, 1992.

For more information contact
Tom Harrer, Administrator

North Clinic

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Stress Testing: A Practical Approach
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A day-long program designed to update the primary care physician in performing and interpreting stress tests in the office or community hospital setting.

Features:

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   5.5 credits prescribed by the AAFP
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Faculty is Richard Madlon-Kay, M.D., Director of Noninvasive Lab, Ramsey Clinic.

To register, contact Robin Rainford, 800-328-1571 or 221-2000. A $100 registration covers the course fee, materials and lunch. **Registrations close October 23.** The course will be held at St. Paul-Ramsey Medical Center, 640 Jackson, St. Paul, Minnesota 55101.

Course support was provided by Burdick Corp.

Physician Assistants wanted to join a 26-physician, multispecialty, primary-care clinic located across from North Memorial Medical Center, a progressive, modern, and independent hospital in Robbinsdale, Minnesota. Our medical group includes four physician assistants in our Family Practice Department. Top salary and benefits package. Three contemporary offices located within seven miles of each other. Positions available immediately. Please contact Tom Harrer, Administrator, North Clinic, 3366 Oakdale Avenue North, Robbinsdale, MN 55422; telephone: 612/588-4625. 3-10/91

Southdale Internal Medicine needs internist to join six internists in growing practice. Suburban Edina location, excellent staff support, competitive salary. Contact: Karen Rotunda, 225 Southdale Medical Building, Edina, MN 55435; 612/920-2696. 3-10/91

Family Practice and Internal Medicine: Opportunities for BC/BE physicians to join progressive primary-care satellite clinics in Barron and Chippewa Falls, Wisconsin. These clinics are part of the Midelfort Clinic, a multispecialty clinic in Eau Claire, Wisconsin, owned and managed by the physicians. An outstanding two-year guarantee, bonus, and comprehensive benefits package are being offered. Barron and Chippewa Falls are communities with excellent school systems, wonderful outdoor recreation, and quality family life. Close to both Eau Claire and Minneapolis/St. Paul, these positions are available due to community growth and demand. Please contact Debbie Bakula, Caswell/Winters, 11400 West Lake Park Drive, Milwaukee, WI 53224; 800/236-0488. *3-11/91

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Pediatrician wanted to join group of five board-certified pediatricians in a well-established, progressive group practice. Located in Minneapolis, minutes away from Children's Medical Center. Small practice stressing patient care and preventive medicine. Contact: Gregg Savitt, M.D., 3145 Hennepin Avenue, Minneapolis, MN 55408. (9/91-R)

Southeast Wisconsin: Third BC/BE obstetrician/gynecologist needed to join single specialty, fee-for-service, laser-equipped practice. This two-female-physician, three-nurse-practitioner office is located in a desirable suburb close to Milwaukee and Chicago. Excellent quality of life and outstanding recreational area. Attractive financial package

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Our integrated, multispecialty, 19-member medical practice has positions available for BE/BC physicians in the areas of:

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This is your opportunity to join a progressive, growing medical team located in a land of lakes only 35 minutes from Minneapolis and St. Paul.

Contact: **Scott Wordelman, President**
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Chisago City, MN 55013

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POSITION AVAILABLE INSTRUCTOR/ ASSISTANT PROFESSOR

Department of Laboratory Medicine and Pathology
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Department of Pathology
Hennepin County Medical Center

The Department of Pathology at Hennepin County Medical Center is seeking a junior staff level Pathologist. Minimum qualifications are M.D., eligible for licensure in state of Minnesota, board eligible or certified in anatomic pathology with special interest and/or training in Cytology including fine needle aspiration. Responsibilities will include Surgical Pathology, Autopsy Pathology, and Cytology. The candidate will be expected to demonstrate skills in teaching medical students and residents, and a commitment to the development of an independent research/scholarly program. Position begins January 1, 1992. Salary is competitive with an excellent benefit package.

Hennepin County Medical Center is a large metropolitan hospital affiliated with the University of Minnesota. Successful candidate will also hold an academic faculty appointment in the Department of Laboratory Medicine and Pathology at Instructor or Assistant Professor level (temporary annually renewable). Candidates for Assistant Professor will be required to have two years of above experience.

Applications and curriculum vitae may be submitted to **John T. Crosson, M.D., Department of Pathology, Hennepin County Medical Center, 701 Park Avenue South, Minneapolis, MN 55415, by December 1, 1991.** Hennepin County Medical Center and the University of Minnesota are equal opportunity educators and employers.

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PROFESSIONAL ASSOCIATION

The Worthington Medical Center is a 17 member multispecialty group, providing primary and secondary care for a large portion of Southwestern Minnesota and Northwestern Iowa. We are located next to beautiful Lake Okabena, a 640 acre recreational lake inside the city limits. Enjoy two 18-hole golf courses and an excellent school system in this family oriented community.

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Orthopedic Surgery
Obstetrics/Gynecology

Eight weeks vacation and meeting time, standard benefits package, and above average salary leading to shareholder status in the corporation with minimum buy-in.

For more information contact:
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Worthington Medical Center, P.A.
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Worthington, MN 56187
Phone: 507-372-2921

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For more information contact:

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or toll free 1-800-842-6469

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including early partnership opportunities. For further information please contact: Lynn Brueggeman, Women's Ob/Gyn Care, 210 NW Barstow Street, Waukesha, WI 53188; or call: 414/544-4400. 2-10/91

Wisconsin: Internist wanted. Group Health Cooperative, a progressive, growing, staff-model HMO in a city of 60,000 in west-central Wisconsin, is currently recruiting a third internist. Very competitive salary with excellent fringe benefits. Practice high-quality internal medicine in a most desirable location. Please contact: Stuart R. Lancer, M.D., M.B.A., Medical Director, Group Health Cooperative, P.O. Box 3217, Eau Claire, WI 54702-3217; 715/836-8552. *4-12/91

Lake Region Clinic, Brainerd, Minnesota: Recruiting two family practice physicians to join six family practice physicians. Able to do the full scope of family practice including ob and ICU. Good cooperative working relationship with specialists in orthopedic surgery, urology, ENT, OBG, general surgery, internal medicine, ophthalmology, and psychiatry. Modern, well-equipped 160-bed hospital within two blocks. We offer first-year guarantee plus incentive, vacation time, CME study time, insurance, and more. Send CV or contact Darral Mischke, Administrator, or David Boran, M.D., at 218/829-3568. (9/91-R)

Rapidly Growing South Suburban Area looking for BC/BE family physicians to meet needs of additional growth. Competitive salary and excellent benefits package. Call Mark Rieb, M.D., at River Valley Clinic of Lakeville, 612/469-1004. 1-10/91

Family Practice: Physicians seeking a BC/BE family practice physician for the Norway, Michigan, service area. The physician would have the option of joining one of the existing practices and/or setting up his/her own practice. Anderson Memorial Hospital is a part of Dickinson County Hospitals and has a service-area population of over 45,000. Contact: Dr. Paul Hayes' office, 906/563-9255, or Dr. William Gladstone's home, 906/563-8743. Anderson Memorial Hospital, Main Street, Norway, MI 49870; 906/563-9243. 2-11/91

West Suburban Office Space: Available October 1st. Former location of pediatric practice for 42 years. Dentist/owner occupied building on busy intersection in St. Louis Park. Exterior signage. Off-street parking at door. 2,240 square feet, all or part. 612/929-0459. *1-10/91

Lake Superior/Boundary Waters Canoe Area: Fulfilling opportunity is available on the picturesque North Shore of Lake Superior for a family practice or internal medicine physician. Imagine scenic beauty, rugged terrain, various outdoor activities, and time to enjoy it! If interested, write: Jon Ward or Kathy Haselow, Silver Bay Clinic, 50 Outer Drive, Silver Bay, MN 55614, or call collect: 218/226-4431. 1-10/91

Occupational Medicine Physician needed to join rapidly expanding practice within a multispecialty group. Although BC/BE preferred, will consider experienced physician with strong interest in occupational medicine. Offering suburban living with easy access to unlimited array of cultural, educational, and recreational opportunities. We offer a highly competitive first-year guaranteed salary, production-based compensation, and an exceptional benefits package. For further information contact: John Bordwell, M.D., 9055 Springbrook Drive, Coon Rapids, MN 55433; 612/780-9155. *1-10/91

Urgent Care Opportunities at Ramsey Clinic and St. Paul-Ramsey Medical Center: An exceptional new position is available for a primary care physician interested in assuming an important leadership role at ReadyCare. The selected candidate will be involved in daily operations and staffing decisions while maintaining a clinical practice. Primary care physicians are also needed, full or part time, to join the staff of ReadyCare. Reasonable hours, no call, competitive salary, excellent benefits, outstanding specialty back-up, and strong and skillful administrative support. Contact: Loriese A. Stoll, Director of Professional Services, Ramsey Clinic, 640 Jackson Street, St. Paul, MN 55101-2595; 612/221-3067. EOE. *2-11/91

Pediatrics: Marshfield Clinic, a 400-physician multispecialty group practice, is seeking BC/BE pediatricians to join expanding regional centers in Chippewa Falls and Rice Lake, Wisconsin. These are beautiful, wooded Wisconsin areas with an abundance of lakes, rivers, and streams. Both communities offer a thriving economic environment, clean air, low crime, excellent schools and exceptional four-season recreation. Chippewa Falls is a community of 22,000 with 8,000 to 10,000 permanent residents living around adjacent Lake Wissota. It borders Eau Claire, Wisconsin, a city of nearly 80,000 that includes a major campus of the University of Wisconsin. Rice Lake is a lakeside community of 8,500 people. In addition to excellent primary and secondary schools, both public and parochial, educational opportunities include a UW Center and VTAE campus. Both opportunities have beautiful new clinic buildings situated adjacent to comparably modern and progressive hospitals. In addition to their many local resources, the nearby proximity of major metropolitan areas (i.e., 1 1/2 hours from Minneapolis/St. Paul) provides a catalog of readily accessible cultural activities, shopping, fine dining, and professional spectator sports. Each opportunity has its own special qualities with more attractive features relative to individual needs and preferences. Emphasis on lifestyle and quality practice is combined with a guaranteed salary and outstanding fringe benefits package. If this combination of professional excellence and lifestyle made possible through the backup resources of a leading medical center in conjunction with the uncommon, varied beauty of Wisconsin's land and lakes sounds interesting to you, please send CV and references to: David L. Draves, Director, Regional Development, 1000 North Oak Avenue, Marshfield, WI 54449; or call 800/826-2345, ext. 5376. *4-1/92

ST. CLOUD MEDICAL GROUP, P.A.

St. Cloud Medical Group, a 22 physician Multi-specialty Group, is now recruiting BC/BE physicians in the following specialities:

- Occupational Medicine
- Pediatrics
- Family Practice
- OB/GYN
- Surgery

Guaranteed first year salary. Production program thereafter with a full fringe benefit package.

If interested in joining a progressive Medical Group in Central Minnesota, call or send C.V. to:

Daryl G. Mathews
Administrator
St. Cloud Medical Group
1301 W. St. Germain Street
St. Cloud, MN 56301
612-251-8181

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We are a publicly held managed health care corporation based in Minneapolis. We work with Fortune 500 clients nationally to provide utilization review and case management services in Mental Health.

We are currently seeking a psychiatrist to work 20 hours per week providing support and clinical leadership to our multi-disciplinary Utilization Review and Case Management teams. This position will help our company establish appropriate policies and procedures, will consult with clinical staff regarding case determinations or outcomes and will act as a company representative to external clients and providers.

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We offer:

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Wisconsin: Fourth BC/BE obstetrician/gynecologist needed to join stable, progressive, primary-care-based HMO/group practice in university town of 60,000 near Minneapolis/St. Paul. Excellent quality of life and outstanding recreational area. Competitive salary and fringe benefits. Contact: Stuart R. Lancer, M.D., M.B.A., Medical Director, Group Health Cooperative, PO Box 3217, Eau Claire, WI 54702-3217; 715/836-8552. *3-12/91

Wisconsin—Family Practitioner Needed by progressive and growing group practice in west-central Wisconsin city of 60,000. Ninety miles from Minneapolis/St. Paul. Primarily prepaid practice with large component FFS. Highly competitive salary with excellent fringe benefits. Practice high-quality care in a good recreational area. Send CV to: Stuart R. Lancer, M.D., M.B.A., PO Box 3217, Eau Claire, WI 54702-3217; 715/836-8552. *3-12/91

Office Space Available 5/1/91 for sublease. 1,220 square feet, Southdale Medical Building. Two exam rooms, conference room, waiting/reception area. Inquiries: 612/333-6484. 6-3/92

The University of Minnesota School of Dentistry invites applications for part-time and full-time non-regular faculty for consultative diagnostic and treatment planning services in specialty clinics. M.D. required, with training and experience in otolargyngology, cleft palate patient care, and/or physical medicine and rehabilitation with experience in chronic pain. The University of Minnesota is an equal opportunity educator. Send résumé [indicating specialty or area(s) of clinical expertise] by 6/30/92 to: Dean Richard P. Elzay, University of Minnesota School of Dentisty, 515 Delaware Street SE, Minneapolis, MN 55455. *1-10/91

The University of Minnesota School of Dentistry invites applications for research fellow (M.S., M.D., or D.D.S. required), research associate (Ph.D. required), and postdoctoral associate (Ph.D. within three years required) positions. Applicants must have at least two years of research training. Positions will provide research expertise in planning and execution of research design and methodology. The University of Minnesota is an equal opportunity educator and employer. Send résumé, indicating areas of research training by 6/30/92 to: Dean Richard P. Elzay, University of Minnesota School of Dentisty, 515 Delaware Street SE, Minneapolis, MN 55455. *1-10/91

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Minnesota Medicine

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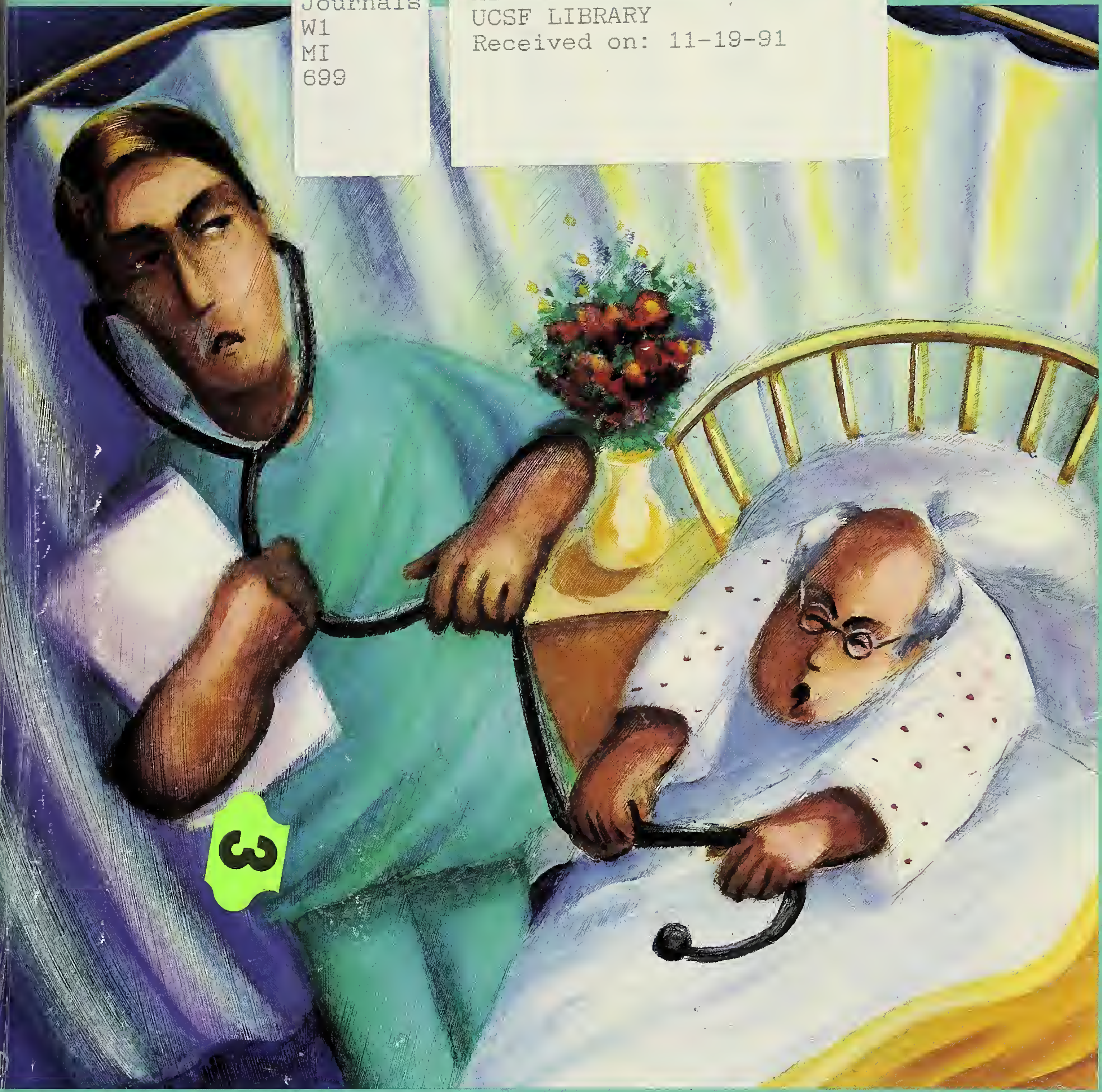

When the Doctor is the Patient

NOVEMBER 1991

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Minnesota Medicine

A JOURNAL OF CLINICAL AND HEALTH AFFAIRS

NOVEMBER 1991 VOLUME 74 NUMBER 11

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COVER

The Doctor as Patient Must physicians suffer as patients to be compassionate providers, as the recent film "The Doctor" asserts? The doctors we talked to for this month's feature story (page 14) say being a patient can be eye-opening, but it's not the only way to develop empathy. Many doctors do admit to finding the experience frustrating and say it is especially hard to give up control to another physician—suddenly to be on the other side of the bed sheets.

Cover art by Minneapolis illustrator Darcy Myers.

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"I have never gotten used to people dying. And I don't want to get used to it."

Dr. Aliza Lifshitz, Internist, Los Angeles, California, Member, American Medical Association

Patients come to physicians for many reasons. Beyond relief from pain, they seek compassion, empathy and support. AIDS patients receive all of these and more from Dr. Aliza Lifshitz.

Born and raised in Mexico and educated at one of Mexico City's finest medical schools, Dr. Lifshitz now serves the Hispanic community in Southern California. Over a third of her patients have tested HIV positive. Most live below the poverty level. Many are illegal aliens.

"I never forget what it means to be a doctor, and what it means is embodied in the Principles of Medical Ethics of the American Medical Association (AMA)," states Dr. Lifshitz.

You are invited to join Dr. Lifshitz and to join with her in her efforts to bring quality health care to those in need. Become a member of the American Medical Association today.

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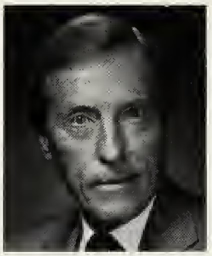
Compassion and Empathy Still Plentiful in Medicine

Edmund C. Burke, M.D.



"Understanding is the foundation of the physician-patient relationship."

Are physicians unable to demonstrate compassion toward patients until they have been patients themselves? "The Doctor," a recent and popular film described in this month's feature story (page 14), proposes this idea.

It's an interesting notion but a distortion of truth. Being a patient can certainly provide a learning experience, but I don't believe it's a prerequisite for compassion. I *do* believe compassion and empathy, which are important elements of medical care, still abound.

Nonetheless, it may be valid to argue that rampantly burgeoning technology is negatively influencing the personal side of medical practice. Specialties have mushroomed. Expertise has developed beyond expectations of earlier days. Specialists contrast with the family doctor, the local pediatrician, and the local internist, who often become quite close to the patients and families they treat. Although medical technology ultimately results in more efficient medical care, we must guard against the impersonalization it may impart.

The October 2, 1991, issue of *JAMA* contains a commentary on the importance of empathy as an interviewing skill in medicine. Empathy is defined as the capacity to understand what another person is experiencing from within—the ability to place oneself in another's shoes. This capacity for understanding is the foundation of the physician-patient relationship. When patients feel their physicians understand their experiences and feelings, trust is enhanced and they are encouraged to share their medical problems.

"The Doctor" is based on a book by Dr. Edward Rosenbaum, a retired rheumatologist who developed throat cancer and consequently became a dependent patient. The film depicts an arrogant, flippant surgeon who is more interested in his career than his patients' welfare. But when the tables are turned and the doctor becomes the patient, he is appalled by the lack of caring involved in his treatment.

Whether we need to live the patient experience to be empathetic is a difficult question to answer. Speaking from the experience of losing two children—a daughter 20 years ago and a son in the past year, each of whom had serious medical problems subsequent to congenital defects—I know death constitutes serious and deep family pain. I remember vividly the anguish as one situation progressed to another, none of which seemed amenable through medical intervention. Someone has said losing a child is the ultimate pain. I don't know whether this is true, but I do know you live with the pain forever. But does such anguish make us better physicians?

My personal feeling is that the experience enhances our compassion but does not constitute it. Our ability to be compassionate and empathetic relates more to the development of our personalities, which is part genetic and part from family experiences, but is mitigated to a great extent by our experiences as students and professionals.

Each of us remembers medical school faculty members who were impressive by their academic credentials but who lacked a genuine warmth for the patient. On the other hand, there were staff mentors who were incredibly thoughtful, kind, and considerate. As residents, we tended to accept what appealed to us and reject what was unappealing.

As professionals, we learn along the way to treat our patients in a very caring way. Some people simply learn to be more compassionate than others—for what reasons, I do not know. In the course of my career, I occasionally called in consultants, some of whom were a great deal more considerate of patients' feelings than others. With experience, I became more selective and tended to reject those who related poorly, despite their academic expertise. I also rejected those who were invariably late and inconsiderately kept people waiting for hours.

While some may criticize the medical profession as cold and scientific in its approach to medical problems, I do not feel the criticism is justified. No doubt we each recall situations we could have managed more sensitively—in a way that would have led to a more satisfactory outcome for the patients and families involved, but for the most part, physicians are a caring, compassionate lot. We realize that the welfare of our patients involves not only their physical health, but also their emotional well-being, which is vital to a healthy attitude in life. MM

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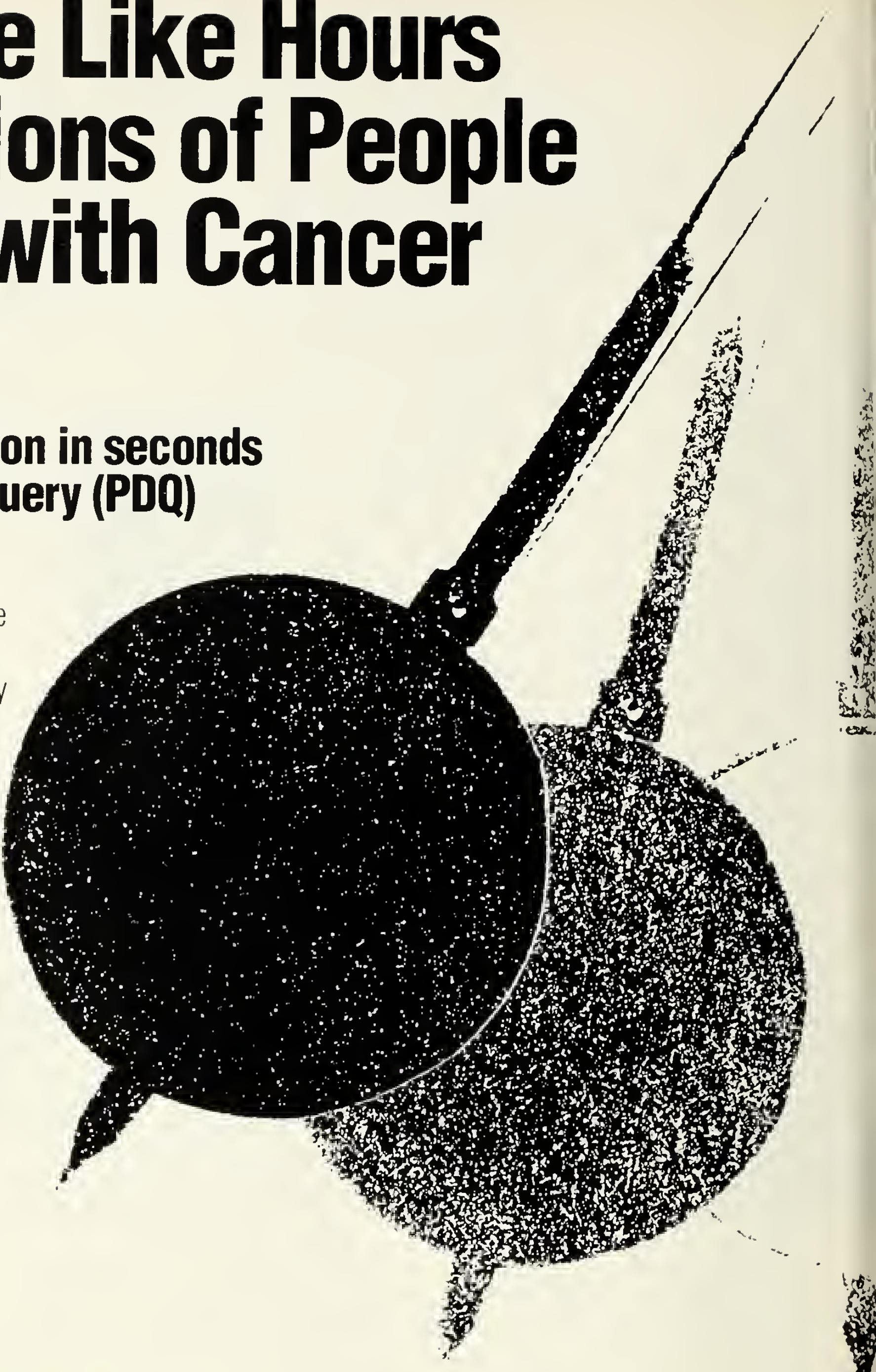

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Diagnosing and Treating Environmental Health Problems

Minnesota Medicine interviews Robert R. Orford, M.D.

Roughly 300 new chemicals are created each year in our technologically advanced world. From 1940 to 1980, the production of synthetic materials increased from 1.3 billion pounds to 320 billion pounds. Not surprisingly, environmental and occupational diseases are significant causes of morbidity and mortality in our society. The list is large—leukemia from exposure to benzene, kidney failure from chronic exposure to lead, asthma and chronic bronchitis from exposure to organic dusts, and lung cancer from exposure to radon, to name just a few.

Physicians, regarded by the public as a trusted source of information on environmental issues, are increasingly being called upon to diagnose and treat environmental health problems, yet few physicians are well-versed on the health consequences of toxic pollutants and the link between work, environment, and disease. The United States has only about 1,000 physicians board certified in occupational medicine, and there are no certifying examinations or residencies in the new, but growing, field of environmental health.

In an effort to teach physicians to recognize and deal with illness caused by toxic chemicals, the Minnesota Department of Health held a workshop at this year's annual spring refresher conference of the Minnesota Academy of Family Physicians, and it plans to hold similar workshops in the future. At the seminar, Robert R. Orford, M.D., who is featured in this month's Face to Face interview, discussed ways physicians can interpret environmental health risks.

Dr. Orford, an occupational medicine physician at Mayo Clinic, stresses that physicians should consider environmental factors when conducting patient interviews. To successfully identify and treat environmentally related illness, they should also be familiar with common toxins patients encounter at work or at home and be adept at using medical literature to research these toxins.

Robert R. Orford, M.D.

> "The general physician is confronted with vast amounts of new information in all fields of medicine, including occupational and environmental health."

An Interest in Environmental Health

Minnesota Medicine: Dr. Orford, please tell us a little bit about your background—where you grew up, where you went to school, how you became involved in environmental health, and how you came to work at the Mayo Clinic.

Orford: I was born in Winnipeg, Manitoba, and grew up in Canada and England. I went to medical school at McGill University in Montreal, Quebec, where I first became interested in occupational, environmental, and aerospace medicine. I did my residency at Mayo, and I subsequently did a residency in preventive medicine with a concentration on environmental and occupational health at the University of Washington in Seattle. I spent a number of years working with the government of Alberta, Canada, as director of medical services and as executive director with responsibilities for occupational health. I was frequently consulted by the Department of Environment. I returned to Mayo three years ago and have since been appointed to a number of environmental committees, including committees of the Minnesota Medical Association, the Zumbro Valley Medical Society, and the Mayo Clinic.

Environmental Medicine's Beginnings

Minnesota Medicine: What is the history of environmental medicine?

Orford: Environmental medicine was probably first established by Hippocrates in his book "On Airs, Waters, and Places." He stressed the importance of clean air and water and pointed out some of the harmful conditions associated with the absence of these. During the Middle Ages, people forgot the importance of a clean environment, and conditions became quite appalling. Then in the 1800s, environmental awareness re-emerged with episodes such as the Broad Street pump, for example. In the early 1800s, a cholera epidemic raging through a certain part of London was traced to a particular pump. The pump's handle was removed so the population couldn't use it, and the cholera epidemic died away in a few days.

About 40 or 50 years earlier, Thomas Sydenham had thought cholera and other similar diseases were related to a miasma—noxious substances from decaying vegetation. This was totally wrong, but the idea led to the sanitation movement, which grew through the 1800s and early 1900s and led to the establishment of many public health departments whose primary focus was cleanliness. Since then, we've learned that something can look clean but not necessarily be safe in terms of public health.

In more recent years, science has focused on specific causes of environmental health problems such as lead, which in water may be totally invisible. Radon in the air is another good example. These are hazardous materials that go unnoticed unless specific measurements are taken. We have certainly become much more scientifically rigorous in our pursuit of environmental health in the latter part of the 20th century, and it's important that we continue to do so.

> "Physicians should consider environmental factors when documenting patient histories."

Environmental Concepts in Practice

Minnesota Medicine: You participated in a Minnesota Department of Health workshop that was organized by the Minnesota Academy of Family Physicians last spring in Minneapolis. Please tell us about that workshop.

Orford: The workshop was called Environmental Issues in Primary Care and was based in part on a publication of the same title. The publication covers many current environmental problems, such as drinking water, indoor air pollutants, metal contaminants, and the whole issue of risk assessment and risk communication. Many physicians will receive questions from their patients or from local news media on environmental health issues, and it's important they be able to answer these questions. Reading "Environmental Issues in Primary Care" is a very simple and painless way to learn about environmental issues. (The book is available from the Freshwater Foundation, PO Box 90, 2500 Shadywood Road, Navarre, MN 55392; 612/449-0092.)

In my presentation, I translated environmental concepts into skills physicians can use in their practices, such as how to take an environmental history and how to assess the scientific literature on environmental hazards and relate the information to patients' medical problems.

Minnesota Medicine: If a patient came to you with complaints of headache or fatigue, how would you investigate whether the environment had anything to do with the illness?

Orford: It's not uncommon for headaches to be associated with carbon monoxide exposure, which can occur when a forced-air gas furnace isn't functioning properly, or when other methods of heating, such as kerosene, are used with improper ventilation. The physician should be aware that carbon monoxide exposure is one of many possible causes for headaches and in certain instances should perhaps include a carboxyhemoglobin in the patient's workup. Methylene chloride, used in furniture refinishing, is converted to carbon monoxide in the tissues and can cause similar symptoms. Headache, like nausea, is a nonspecific symptom that may also occur with exposure to many other toxins, especially at high exposure levels.

Minnesota Medicine: What environmental health issues should concern Minnesota physicians?

Orford: The Environmental Quality Board of Minnesota has identified 10 priority issues for 1990. I expect these will be very similar in years to come. They are groundwater management, solid waste management, pesticides, surface water, mining, land stewardship, hazardous materials, indoor air quality, air toxins, and biotechnology. Physicians don't have a role in all of these, but they do in some, particularly in assessing the potential health effects of pesticides and nitrates, which can contaminate groundwater. This is particularly a problem in rural areas. Physicians should also be aware of indoor air quality, such as in the example we just talked about. Many aspects of the environment should concern physicians in Minnesota. Physicians should consider environmental factors when documenting patient histories, including both the patient's work and home environment. Occupational exposures can significantly affect an individual's health and well-being. Sending a patient with emphysema back to a work environment with high levels of silica, for example, would not be good for the patient. It may also be useful to inquire about hobbies, especially those that require the use of chemicals, such as furniture stripping, which I mentioned earlier. Many physicians and patients are unaware of these dangers.

Once you know the name of the chemical—the toxin—you can look it up in one of the many sources available in the medical literature and determine its hazards. It's also important to determine the level of exposure because there may be no effect at low levels but significant effects at higher levels. Once you've determined that the patient has had a significant exposure, it may be possible to solve the problem by removing the source of exposure or reducing exposure by improving ventilation, using respiratory protection, or some other means. The discovery you make may benefit many people because others in the workplace or home environment may be similarly affected by the toxin.

The Dioxin Concern

Minnesota Medicine: Stories about dioxins have appeared in the news recently regarding problems in New York. Can you bring us up to date?

Orford: Concentrations of many toxic chemicals are scattered throughout the United States in so-called Superfund sites, which are waste sites that the federal government has decreed must be cleaned up and the toxic materials destroyed or disposed of in a way that won't pollute groundwater or air. Dioxins have occupied public attention for several years because they are fairly widespread contaminants. The herbicides 2,4-D and 2,4,5-T, which contain one of the most potent dioxins, TCDD (tetra-chlor-dibenzo-dioxin), are present in some dump sites and in Agent Orange, the herbicide used in Vietnam. In studies done on guinea pigs, these substances have proved to be very toxic in minute concentrations. However, several industrial studies have failed to demonstrate dioxins' predicted effects in humans. Also, on July 10, 1976, an explosion released a fair amount of dioxins in a populated area of Seveso, Italy. The exposed population has been studied for several years, but so far there appear to be few chronic effects. This has surprised some scientists. With toxic substances, you have to keep in mind that the level and means of exposure are important factors. You can always identify toxic materials, such as cyanides, in air and water, but at levels of parts-per-trillion, they are of no consequence in terms of human exposure. The same is true of dioxins. They are present in our environment at very low levels, but the human hazard is quite slight.

Radon Gas Detection

Minnesota Medicine: I'd like to ask your opinion about radon gas, which has gotten a lot of attention in Minnesota. It's frightening that something with the potential to cause lung cancer might be present in people's homes. Should people have their basements tested for the presence of radon?

Orford: The Environmental Protection Agency is very concerned about public exposure to radon based on studies conducted on uranium miners in Colorado in the 1950s and '60s. The findings suggested that there was a linear increase in lung cancer rates with increasing exposure to radon daughters. These are the breakdown products of radon, and they occur whether the radon is from a mining environment or from seepage of radon gas into a house from soil. In areas like southeast Minnesota, particularly with its karst geology, there may be cracks or tunnels hundreds of feet long that act as chimneys and bring concentrated levels of radon gas into very small areas. If you have such a tunnel under your basement, the radon levels may be very high. It is impossible to taste, smell, or otherwise detect radon with your own senses. It can only be detected by a measurement device.

If you are considering measuring for radon gas, you should consider your exposure. If you are living in your basement or spend a lot of time there, it is very important that you determine the radon concentration there. Measurements should be taken over a three-month period and done again at a later date because levels vary from season to season. Conversely, if you are rarely in your basement, I don't think it's necessary to take a basement measurement. There may be some benefit in taking measurements in other areas where you spend most of your time because radon levels may be elevated in the first and second stories of a house, particularly if the radon levels are very high in the basement. However, the problem is usually in the basement, close to the ground, and especially in inadequately ventilated areas.

Minnesota Medicine: What kinds of testing kits are available, and are they reliable?

Orford: A number of different types of instruments can be used. The alpha tracking devices are left in one location for several months and are then analyzed. Other more sensitive instruments can give a reading from a one- or two-hour sample, although it's debatable whether the reading will be reflective of a long-term exposure because radon levels fluctuate with the weather, atmospheric pressure, humidity, and so on. The longer-term device, which costs about $20 to $25, is probably the best bet for the homeowner. The devices can be purchased through the American Lung Association and through safety supply stores.

> "Many aspects of the environment should concern physicians in Minnesota."

The Atrazine Risk

Minnesota Medicine: Much to the irritation of the farming community, the use of insecticides and pesticides in farm fields has also received a lot of public attention. Atrazine is one chemical that has gotten a bad name. What can you tell us about atrazine? Should we be concerned about its use?

Orford: Atrazine, a triazine herbicide, is present in Minnesota groundwater to a greater degree than any other herbicide used in the area. About 50 percent of the wells in southeast Minnesota have measurable levels of atrazine. However, those levels are very low, and I am not aware of anyone who has been affected by groundwater contaminated with atrazine. We're talking about very minute concentrations. In higher concentrations, atrazine could cause eye or skin irritation and possibly liver or neurological effects, although there have been few reports of human toxicity from occupational exposure.

Minnesota Medicine: Is atrazine dangerous to the farmer?

Continued

Orford: Atrazine is much more dangerous to the farmer who applies it than to the individual who drinks well water with measurable, but very low levels, of the herbicide.

The Clinical Ecology Controversy

Minnesota Medicine: Many individuals, including physicians, have become greatly concerned about the many and varied toxic substances in our environment. In response, the somewhat controversial field of clinical ecology has emerged. What's that all about?

Orford: Clinical ecologists maintain that substances are present in very low concentrations in our everyday environment—chlorine in our water when we take a shower or formaldehyde gas that escapes from our carpets and walls, for example—that build up in the human body and exceed the capacity of some people's immune systems. A breakdown in the immune system leads to a number of rather vague complaints for which there are no other physical or psychological explanations. Clinical ecologists advocate placing such chemically hypersensitive persons into very controlled environments, where there is minimal exposure to dust or chemicals of any kind. For example, newspapers would have to be placed inside glass enclosures for reading so that the chemicals from the printing couldn't escape into the air.

There's a lot of overlap between what clinical ecologists do and what allergists do. Allergists are working on the basis of scientific principles and methodologies that have been developed over many years for the identification and treatment of allergic diseases. The clinical ecologists are just beginning their specialty, and some of their ideas have not been well received by the medical community. It will take time before we know why some people develop these health problems, which they surely do, and whether methods other than those developed by orthodox medicine can help them. It's incumbent on the clinical ecologists and those who work with them to use the methods of epidemiology and clinical research to ensure that the effectiveness of these methods is proven over time. If the methods can be proven, they may be accepted into orthodox medicine. Currently, however, the medical community still harbors considerable doubt about many of the recommended treatments.

Keeping Up with a Growing Field

Minnesota Medicine: How do you think the fields of occupational and environmental medicine will grow as we focus more and more on environmental health? What can the general physician do to keep up?

Orford: The general physician is constantly confronted with vast amounts of new information in all fields of medicine, including occupational and environmental health. Physicians must, therefore, learn new techniques, which will increasingly require computer technology. Many databases are already available for accessing information on the assessment and treatment of exposures to hazardous substances. In addition, free information services are available by telephone, including the Minnesota Regional Poison Control Center at St. Paul-Ramsey Medical Center (800/222-1222) and the National Pesticide Telecommunications Network in Texas (800/858-PEST). The Institute of Medicine has recently recommended that a network be established to handle a broader range of occupational and environmental health topics with a focus on providing physicians with needed information on diagnosis, treatment, and risk assessment.

The Agency for Toxic Substances and Disease Registry (ATSDR), which co-sponsored the Minnesota Academy of Family Physicians' workshop with the Department of Health, has developed a series of case studies in environmental medicine designed to guide physicians through the diagnosis, treatment, and surveillance of persons exposed to hazardous substances (available free of charge from ATSDR, Health Education Program, F38, 1600 Clifton Road, Atlanta, GA 30333). Finally, physicians interested in becoming more actively involved should consider membership in the American College of Occupational and Environmental Medicine (55 West Seegers Road, Arlington Heights, IL 60005; 708/228-6850). MM

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Discoveries

Motherhood Holds Lessons for Physician

Lynn M. Cleary, M.D.

Abigail found the moon last night. It was a quiet discovery, like most of hers have been. I, on the other hand, heard an orchestra. These are secular miracles to me, her realizations. This one was especially magical because it was so unexpected.

Yesterday was full-tilt, non-stop. I finally left the hospital after a late admission and went to pick her up at her grandmother's house; it was quarter till 10 when I arrived, and she hadn't been able to fall asleep in her portable crib. She was edgy, of course, as if she resented the fact that I'd left her all day but at the same time resented my intrusion at returning; she'd had her grandmother's undivided attention. Once we were outside she was quiet, attentive. The air was clear and cold, the moon was almost full, and it was surprisingly bright out with all the snow. She pointed up and said, "Deesh?" stared for a moment, then looked at me and smiled with the unmistakable delight of making a connection. All those hours of reading "Good Night, Moon" somehow fit together with her ability to select and then point to something and finally to show me what she had found. We both rode that wave for miles on the way home. Her car seat was near the window, so she could look out and contemplate her discovery. She was quite content with it, checking for its presence at intervals and then just resting or humming with the sound of the motor. The last few miles were along the lake, where the moon's reflection was so lovely. We were both quiet then.

> "There is a time for direction and a time for appreciation. My daughter is helping me sense the difference."

Much of the time my emotions are so private that I'm not certain of them, but motherhood has articulated very clear feelings. I am happy to be feeling what millions of mothers feel, what my mother and grandmother and sister have felt. Part of being a new mother is essentially instinctive, connecting me to ancestors and descendants. Another part is having body and emotions merge, as when milk stains my shirt when she cries. It is hard to describe what it is like to be kicked from the inside out, to nurse, to cry instinctively when she is in pain. I quite like this intimacy.

Motherhood has been remarkable in so many ways; I am only beginning to learn of its effects on me as a physician. It is not just being a patient, going through labor and delivery, healing wounds, or putting up with hemorrhoids. Nor is it learning how to nurse together, mix formula, or figure out if the baby has otitis media. Something in my brain is connecting differently now. Like Abigail, I find things right in front of me that may have been there all along. My neurons are redirected by hormones, my sensibilities have different receptors—more of some, less of others, perhaps new ones. It is not a new language or a different culture, and it is more than a simple renewal.

I have begun to sense that dimension of a patient-doctor relationship that relates to giving in a different way. Traditionally, one thinks of a patient receiving a diagnosis, information, treatment, and of a doctor giving care, time, advice. I have been uncomfortable receiving gifts from patients; it was different receiving their gifts as a mother. I must feel motherhood is different from my other roles with them, perhaps more comfortable, perhaps more deserving. Maybe it is the nature of the gifts that made it easy. I have sensed the strength of good feeling when they gave me a blanket, or a rattle, or a bib. Giving gifts empowers the giver, and the usual doctor-patient relationship empowers the doctor in that way. As physicians we assume that power, usually with good intentions, but it does shift the fulcrum of the relationship. It feels very right to readjust that balance, to receive booties, or a stuffed bear, or genuine concern and good will. It feels right to respond to their inquiry about my family, to spend the time sharing that gift of affection. Somehow my child has helped me realize and accept a very important dimension to patient-doctor relationships, before she can even talk.

Another of her silent instructions is to appreciate time. She is my little yardstick, measuring off days and months with each new pound, new skill, new tooth. I am better organized and seem to accomplish more in less time. No doubt there are other ways to learn these skills, but motherhood does hasten their acquisition. Cooking and holding the baby at one time, reading while nursing her—these are good exercises and readily transferable to reading abstracts between returning phone calls at work or eating a sandwich while waiting for the file room clerk to find an X-ray. Although doing two things at once is often necessary at work, it feels more natural now and less of an imposition.

I am also learning to let circumstances direct me. Life is so much easier if I let her show me how she can untie

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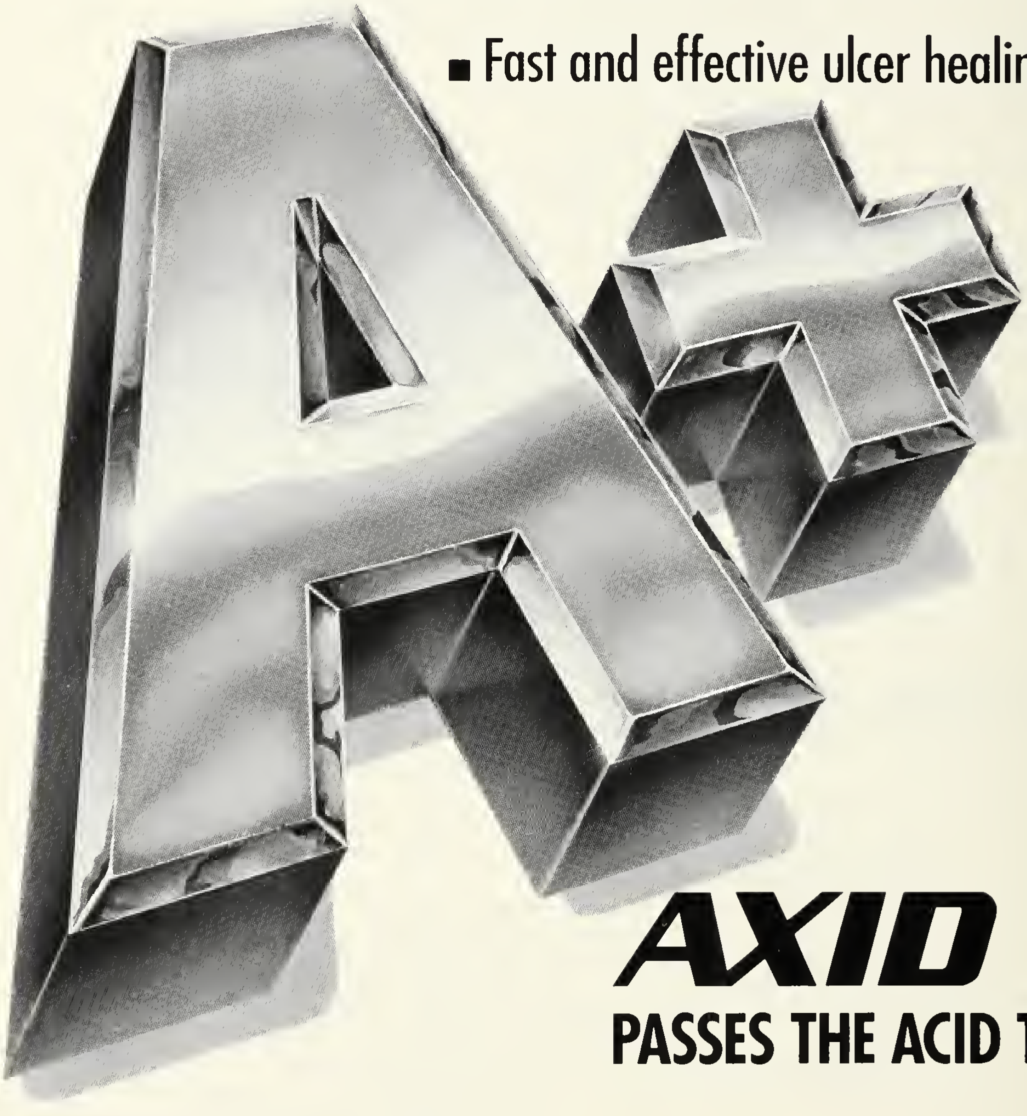

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her shoes rather than insisting she keep them on, and much more fun when she chooses between the tambourine and castanets than when I try to teach her a tune on the xylophone. It matters less what antibiotic the resident chooses for treating the pneumonia than that he or she decided to admit the patient for care in the first place at two o'clock in the morning. If Mr. Smith chooses to talk to me about his car mileage and snow tires, why should my own poor sense of timing force him to discuss his wife's terminal cancer that day? There is a time for direction and a time for appreciation. My daughter is helping me sense the difference.

Not long after returning from maternity leave, one of my patients entered the terminal stage of a prolonged illness. She and her husband had been patients for several years, and we had all been aware of the inevitable. Nonetheless, each dying process is a little different, each family circumstance unique. Most physicians process death objectively (write the DNR order, be sure the morphine drip is adequate), but most also occasionally find it jarring, sometimes even unacceptable. This woman's terminal illness was uncomfortable for me. Perhaps it was the juxtaposition of my daughter's recent birth with this patient's impending death, my identification with her as a mother and grandmother, with them as loving parents. It may have been her stoicism, the unfairness of all her suffering.

We were able to have hospice become involved in her terminal care. During the initial interview among family members, hospice staff members, and me, her husband asked specific questions about how she would die. They were good questions, hard ones to answer, but one of the answers from the hospice inpatient coordinator hit home for me. She explained that patients often labor before they die, just as women labor before giving birth. This patient has been laboring. She had sensed the process and was proceeding with an inner direction. "Don't fight," recommends the labor coach at the birthing classes. Somehow, this process of dying became less uncomfortable for me, and, I think, for the family. The patient had just celebrated a 75th birthday the week before entering real labor. She was ready to labor at the other end of her life. It was less a concept of her leaving than a natural transition from one place to another. The notion of hospice staff working as labor coaches seemed ridiculous, but oddly appropriate—sort of like whiskey and laughter at an Irish wake. No doubt the next of my patients to die will be very different—another disease, a different family. But the concept of laboring as part of dying will now be part of my framework to deal with it.

Motherhood shares so much with the practice of medicine; as Osler described the latter, it is "a way of life." It will be part of my awareness now, an inseparable part of my medical experience. No doubt little Abigail will show me the sun, the stars, and the planets some day. MM

Lynn Cleary is from the State University of New York Health Science Center at Syracuse.

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Brief Summary. Consult the package insert for complete prescribing information.
Indications and Usage: 1. *Active duodenal ulcer*—for up to 8 weeks of treatment. Most patients heal within 4 weeks.

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Contraindications: Known hypersensitivity to the drug. Because cross sensitivity in this class of compounds has been observed, H_2-receptor antagonists, including Axid, should not be administered to patients with a history of hypersensitivity to other H_2-receptor antagonists.

Precautions: *General*—1. Symptomatic response to nizatidine therapy does not preclude the presence of gastric malignancy

2. Dosage should be reduced in patients with moderate to severe renal insufficiency.

3. In patients with normal renal function and uncomplicated hepatic dysfunction, the disposition of nizatidine is similar to that in normal subjects.

Laboratory Tests—False-positive tests for urobilinogen with Multistix® may occur during therapy.

Drug Interactions—No interactions have been observed with theophylline, chlordiazepoxide, lorazepam, lidocaine, phenytoin, and warfarin. Axid does not inhibit the cytochrome P-450 enzyme system; therefore, drug interactions mediated by inhibition of hepatic metabolism are not expected to occur. In patients given very high doses (3,900 mg) of aspirin daily, increased serum salicylate levels were seen when nizatidine, 150 mg b.i.d., was administered concurrently.

Carcinogenesis, Mutagenesis, Impairment of Fertility—A 2-year oral carcinogenicity study in rats with doses as high as 500 mg/kg/day (about 80 times the recommended daily therapeutic dose) showed no evidence of a carcinogenic effect. There was a dose-related increase in the density of enterochromaffin-like (ECL) cells in the gastric oxyntic mucosa. In a 2-year study in mice, there was no evidence of a carcinogenic effect in male mice, although hyperplastic nodules of the liver were increased in the high-dose males as compared with placebo. Female mice given the high dose of Axid (2,000 mg/kg/day, about 330 times the human dose) showed marginally statistically significant increases in hepatic carcinoma and hepatic nodular hyperplasia with no numerical increase seen in any of the other dose groups. The rate of hepatic carcinoma in the high-dose animals was within the historical control limits seen for the strain of mice used The female mice were given a dose larger than the maximum tolerated dose, as indicated by excessive (30%) weight decrement as compared with concurrent controls and evidence of mild liver injury (transaminase elevations). The occurrence of a marginal finding at high dose only in animals given an excessive and somewhat hepatotoxic dose, with no evidence of a carcinogenic effect in rats, male mice, and female mice (given up to 360 mg/kg/day, about 60 times the human dose), and a negative mutagenicity battery are not considered evidence of a carcinogenic potential for Axid.

Axid was not mutagenic in a battery of tests performed to evaluate its potential genetic toxicity, including bacterial mutation tests, unscheduled DNA synthesis, sister chromatid exchange, mouse lymphoma assay, chromosome aberration tests, and a micronucleus test.

In a 2-generation, perinatal and postnatal fertility study in rats, doses of nizatidine up to 650 mg/kg/day produced no adverse effects on the reproductive performance of parental animals or their progeny.

Pregnancy—Teratogenic Effects—Pregnancy Category C—Oral reproduction studies in rats at doses up to 300 times the human dose and in Dutch Belted rabbits at doses up to 55 times the human dose revealed no evidence of impaired fertility or teratogenic effect; but, at a dose equivalent to 300 times the human dose, treated rabbits had abortions, decreased number of live fetuses, and depressed fetal weights. On intravenous administration to pregnant New Zealand White rabbits, nizatidine at 20 mg/kg produced cardiac enlargement, coarctation of the aortic arch, and cutaneous edema in 1 fetus, and at 50 mg/kg, it produced ventricular anomaly, distended abdomen, spina bifida, hydrocephaly, and enlarged heart in 1 fetus. There are, however, no adequate and well-controlled studies in pregnant women. It is also not known whether nizatidine can cause fetal harm when administered to a pregnant woman or can affect reproduction capacity. Nizatidine should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers—Studies in lactating women have shown that 0.1% of an oral dose is secreted in human milk in proportion to plasma concentrations. Because of growth depression in pups reared by treated lactating rats, a decision should be made whether to discontinue nursing or the drug, taking into account the importance of the drug to the mother.

Pediatric Use—Safety and effectiveness in children have not been established.

Use in Elderly Patients—Healing rates in elderly patients were similar to those in younger age groups as were the rates of adverse events and laboratory test abnormalities. Age alone may not be an important factor in the disposition of nizatidine. Elderly patients may have reduced renal function.

Adverse Reactions: Clinical trials of varying durations included almost 5,000 patients. Among the more common adverse events in domestic placebo-controlled trials of over 1,900 nizatidine patients and over 1,300 on placebo, sweating (1% vs 0.2%), urticaria (0.5% vs <0.01%), and somnolence (2.4% vs 1.3%) were significantly more common with nizatidine. It was not possible to determine whether a variety of less common events were due to the drug.

Hepatic—Hepatocellular injury (elevated liver enzyme tests or alkaline phosphatase) possibly or probably related to nizatidine occurred in some patients. In some cases, there was marked elevation (>500 IU/L) in SGOT or SGPT and, in a single instance, SGPT was >2,000 IU/L. The incidence of elevated liver enzymes overall and elevations of up to 3 times the upper limit of normal, however, did not significantly differ from that in placebo patients. All abnormalities were reversible after discontinuation of Axid. Since market introduction, hepatitis and jaundice have been reported. Rare cases of cholestatic or mixed hepatocellular and cholestatic injury with jaundice have been reported with reversal of the abnormalities after discontinuation of Axid.

Cardiovascular—In clinical pharmacology studies, short episodes of asymptomatic ventricular tachycardia occurred in 2 individuals administered Axid and in 3 untreated subjects.

CNS—Rare cases of reversible mental confusion have been reported.

Endocrine—Clinical pharmacology studies and controlled clinical trials showed no evidence of antiandrogenic activity due to nizatidine. Impotence and decreased libido were reported with equal frequency by patients on nizatidine and those on placebo. Gynecomastia has been reported rarely.

Hematologic—Fatal thrombocytopenia was reported in a patient treated with nizatidine and another H_2-receptor antagonist. This patient had previously experienced thrombocytopenia while taking other drugs. Rare cases of thrombocytopenic purpura have been reported.

Integumental—Sweating and urticaria were reported significantly more frequently in nizatidine- than in placebo-treated patients. Rash and exfoliative dermatitis were also reported.

Hypersensitivity—As with other H_2-receptor antagonists, rare cases of anaphylaxis following nizatidine administration have been reported. Rare episodes of hypersensitivity reactions (eg, bronchospasm, laryngeal edema, rash, and eosinophilia) have been reported.

Other—Hyperuricemia unassociated with gout or nephrolithiasis was reported. Eosinophilia, fever, and nausea related to nizatidine have been reported.

Overdosage: Overdoses of Axid have been reported rarely. If overdosage occurs, activated charcoal, emesis, or lavage should be considered along with clinical monitoring and supportive therapy. Renal dialysis does not substantially increase clearance of nizatidine due to its large volume of distribution.

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1. Data on file, Lilly Research Laboratories.
2. *Scand J Gastroenterol.* 1987;22(suppl 136):61-70.
3. *Scand J Gastroenterol* 1987;22(suppl 136):47-55.
4. *Am J Gastroenterol* 1989;84:769-774

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Additional information available to the profession on request.

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COVER STORY

On the Other Side of the Bed Sheets

WHEN THE DOCTOR IS THE PATIENT

• • • • •

Pamela Hill Lampert

It's an insulting idea—with an element of truth.

"The Doctor," a film released this summer, proposes that physicians cannot feel or demonstrate compassion toward patients until they, as doctors, have been patients. Based on 76-year-old Dr. Edward Rosenbaum's autobiographical account ("A Taste of My Own Medicine") of his bout with throat cancer six years ago, the movie portrays a wisecracking, insensitive cardiac surgeon who cares more about his success than his patients. "Cut straight, care less," he tells his residents. But when he is diagnosed with laryngeal cancer, he struggles with curt physicians and the powerlessness of being a patient; he becomes a number on a chart. The experience convinces him to change his ways.

So is it true that physicians who suffer as patients become more compassionate providers?

Certainly, compassion can be enhanced by personal experience, but some people would argue that it's more closely tied to personal values, morals, character, and one's ability to vividly imagine oneself in another's shoes—or slippers.

"I don't think suffering has anything to do with being compassionate," says Richard Burman, M.D., a partner at the Richfield Medical Group. "We all know people who are suffering who are not compassionate, and we know people with no adversity who are very compassionate."

Family physician William Miller, M.D., also with that group, agrees. "I've had two knee surgeries, foot surgeries, GI bleeding, and my first wife died of cancer—but I don't think those events helped me to be more compassionate. Observing my patients and my own Christian growth may be the more important factors."

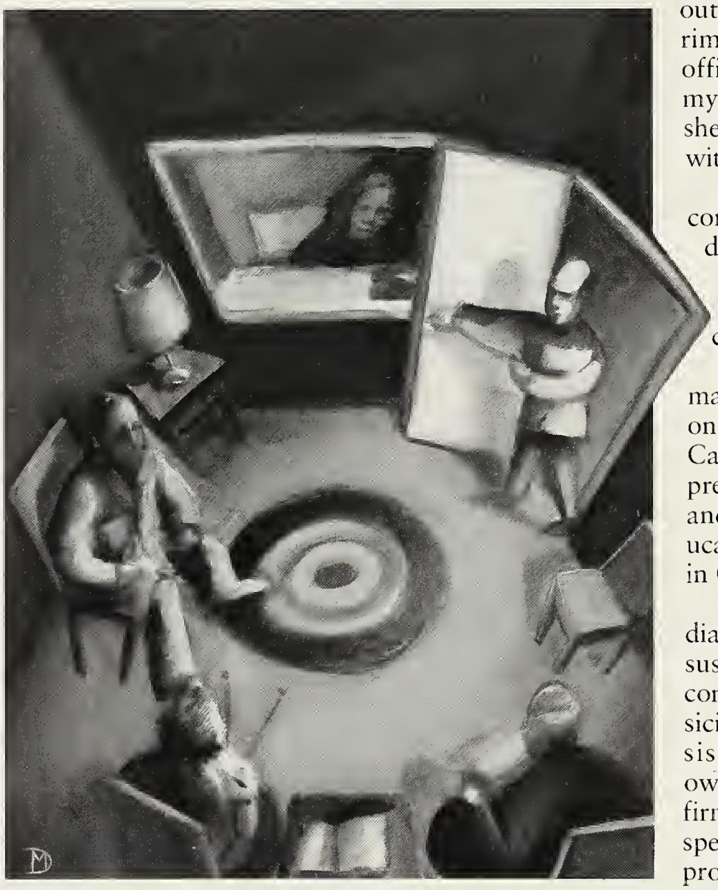
Yet, there is something about the modern physician's bedside manner that has convinced the general public it would take a major illness to sensitize the physician to the patient's plight. It is that *something* that "The Doctor" strives to address.

Like the movie's protagonist, retired family practitioner Paul Williams, M.D., of Silver Lake Clinic and Health One Unity Hospital, says he learned some lessons about compassion when he was hospitalized two years ago for a heart transplant. "If I were still in practice, there are some things ... I'd change," he says. "I'd try to spend more time with each patient during hospital rounds. I'd try to spend more time with relatives of the seriously ill. I'd like to be more tolerant of people who are in denial. I'd recognize that each person is an individual and you can't just tear a chapter out of a book and say 'this works.' "

The physician in "The Doctor" experiences a frustrating loss of control when his role is reversed. In a painful transition from doctor to patient, he shyly asks his radiation therapist if he will be involved in treatment decisions. This feeling of powerlessness is true to life, according to Williams, who says, "The loss of control as a patient can be depressing—can feel awkward."

Reluctant to give up that control, Williams tried to direct his own care. When he first had signs of cardiac arrest, he called a colleague before going to the hospital. "I walked into ER and said, 'I'm having a heart attack, and I'm in congestive failure.' " On a subsequent admission, he wrote his own history in advance on a hospital admission form to save his doctor time. "Most of us would rather be the hammer than the nail," he says in explanation.

When physicians become patients inside the very health care system they've helped to create, their perceptions and conclusions from their own experiences are telling. Overall, Williams appreciated his hospital care—including the nonclinical, emotionally supportive side of it—but he couldn't resist tinkering with the care others provided for him. "I taught some of the staff how to put on dressings that didn't leak. And when it turned out I was allergic to Bactrim, I called a nurse at my office for a reprint from my file on that topic, and she sent it over. I shared it with the pharmacy."



ILLUSTRATIONS BY DARCY MYERS

Giving up that sense of control can be especially difficult when a physician develops an illness in his or her own specialty.

"My disease was a malignancy, and I am an oncologist," says Joseph Cardamone, M.D., vice president of medical affairs and medical director of education at Mercy Hospital in Coon Rapids.

"I didn't actually self-diagnose, but I had a strong suspicion," he says. He consulted his personal physician for an initial diagnosis, but when his own suspicions were confirmed, he had to choose a specialist. "It's a difficult process, selecting your own oncologist," he says. "You have to think of whose feelings you might hurt if you don't ask and who to avoid because your emotional ties as friends are too close."

Cardamone, who says he sat in his doctor's waiting room like every other patient, admitted there were some perks to being a physician patient. "They'd call me if the schedule was running late to let me see my own patients up to the last minute."

The contrast between his relative lack of control as a patient and his total control as a physician treating patients with similar diagnoses was apparent, however. "It was occasionally difficult not to write my own orders, or at least want to. You just have to have significant trust in who you've chosen to care for you."

Kevin Nelson, M.D., of the Richfield Medical Group, agrees that establishing trust between the physician who is the patient and the physician who is the doctor can feel clumsy. "Part of what every patient needs to do is to give up control to their doctor. It's hard to do and it has to do with faith—faith in your doctor and faith that you'll get better."

Making that leap of faith is particularly difficult for doctors, says Nelson. "It hurts us as patients to be physicians because we have a much bigger leap to make to suspend control and to put it into our own doctor's hands. It's hard to do that and to reserve our own strength for the important job of being optimistic and working on healing ourselves."

Although Cardamone had great confidence in his physician, even their relationship wasn't ideal. "I did learn that there can be a significant discordance between what you think you've told your doctor, what he or she perceives, and what gets written down on paper. Communication can get to be very tricky, particularly when you are emotionally and/or physically stressed."

From an attending physician's point of view, communication problems might be caused by a demanding schedule or by a missed, subtle cue. From a patient's point of view, communication gets difficult when anxiety is heightened. Simply being afraid of possible outcomes, test results, pain, and complications can cloud a patient's ability to ask clear questions.

"Part of what every patient needs to do is to give up control to their doctor. It's hard to do and it has to do with faith—faith in your doctor and faith that you'll get better."

–Kevin Nelson, M.D.

In "The Doctor," the surgeon being treated for cancer experiences many frightening and confusing "assaults" from ancillary staff and physicians who begin procedures and treatments suddenly, with little or no explanation. His questions are rebuffed brusquely or even ignored. Other patients are surprised at his indignation, and seem more accustomed to the flip answers and patronizing responses from their care givers.

"What I've learned about is the anxiety of an illness," says Cardamone. "I've become more sensitive to the high level of anxiety a patient can feel about a procedure I feel very familiar with. As a physician, I might order 16 CT scans a week, no big deal. As a patient, I might have one every six months during a significant illness, and it's a big deal to me."

Even with efforts on both sides, communication problems between patients and physicians can often be complex and probably won't ever be resolved to everyone's satisfaction, concludes Cardamone.

"We're all caught up in time constraints, both patients and doctors. No doctor has time to go through all the possible questions about a procedure or situation. No patient has the time and information to make truly informed decisions. Specialties are too complex and experience is too important. You may try to learn everything you can about what's going to happen to you, but eventually, it boils down to you trusting the person you've chosen as your doctor."

Occasionally, Cardamone will share his experiences as a cancer patient with his own cancer patients. "I haven't tried to be secretive about it, but I haven't broadcast it, either. At times, if a patient is having similar problems or facing similar things, I talk about myself. I tell them I know how radiation therapy feels, because I've had it. I know how they might react to this medication, because I've had to take it.

"Knowing their own oncologist has cancer may be reassuring to them, or it may be threatening—it's clear even I'm not immune, and I'm supposed to be the expert," he says.

To find out that the physician isn't untouchable by disease can be a surprise to the patient but can be even a bigger surprise to the doctor. Pain doesn't hurt less because you know what causes it. Fear doesn't go away because you understand the mechanics of the procedure. And vulnerability doesn't diminish because you're a specialist on your illness.

Like Cardamone, Hutchinson family physician Carl Bretzke, M.D., thinks the experience can change the way a physician relates to patients. "I think being a patient has made me a better physician," says Bretzke, who has been briefly hospitalized for a rotator cuff repair, a carpal tunnel procedure, and an appendectomy. "Certainly for patients of mine about to undergo the same surgeries, I can better prepare them and tell them a lot more about how they're likely to feel afterward."

Bretzke says that although the memory for pain is

Do Physicians Practice What They Preach?

When oncologist Joseph Cardamone, M.D., first developed signs of cancer, he consulted his personal physician for an initial diagnosis. Unlike Cardamone, more than half of all physicians (according to several studies done over the last three years) do not have their own family physicians. Numerous studies indicate that, when it comes to health and wellness practices, doctors don't take their own preventive medicine.

A study in the *Archives of Internal Medicine* summarized in the October 2, 1989, issue of *Medical Economics*, found that while 58 percent of all physicians polled advocate a checkup once every two years, only 33 percent follow their own advice. Nearly half the doctors surveyed say they've *never* visited another physician for a checkup—a statistic also documented by Dr. Charles E. Lewis's study at the University of California in Los Angeles, published in the January 1, 1991, issue of the *Annals of Internal Medicine.* In addition, Lewis's study—a survey of more than 1,300 internists from around the country—found that more than half aren't immunized against hepatitis, pneumonia, or the flu; 18 percent do not exercise regularly; 13 percent do not use seat belts; 11 percent drink alcohol daily; and nearly 4 percent smoke. A previous study showed that about half of physicians consider themselves overweight.

Perhaps this attitude toward personal health is born in medical school and residency training, where skipped meals, exhaustion, overwhelming work schedules, and lack of personal life become all too familiar. Or, perhaps this attitude is prevalent because doctors, just like everybody else, fall prey to bad habits.

William Miller, M.D., of the Richfield Medical Group, agrees that physicians don't always follow their own medical advice. "We don't tend to have physicals as often as we tell other people to, but I don't know if I really have a problem with that. There are differing philosophies about how effective physicals are, how obsessed you need to be with having them. I think physicians would tend to catch the danger signs of anything big and get in to see somebody."

Studies show physicians are often lax about their families' health, as well. A 1989 study in *Pediatrics* concludes that, when treating their own children, physicians tend to delay seeking outside medical care, self-refer without consulting other physicians or a pediatrician, and exacerbate problems by providing poor documentation and less detailed histories.

When it comes to health care for the families of physicians, do the shoemaker's children really go barefoot?

"My daughter went to school the day she had her appendix out, so, yeah, maybe this is true," says William Roberts, M.D., a sports medicine specialist and family physician at MinnHealth in White Bear Lake. "I do my own children's throat cultures in the kitchen. We've had a couple broken arms here that we haven't panicked about. But my mother was a nurse, and she always had a pretty relaxed attitude toward medical problems."

Sometimes, however, treating your own family can be unnerving, says Miller. "I remember one night, at 3 a.m., when my own daughter was ill—the Asian flu was going around—and this little kid was just terribly ill. It drove me crazy. As a doctor, you think of the worst things, worse than other parents can imagine. It's tough to treat your own family. I try to avoid the big deal, but I do take care of the minor things, the routine things."

Some doctors are quite comfortable treating their own families, as well as their partners' families. When Miller—who is now 64 years old—was first in family practice 130 miles west of the Twin Cities, he had no one to call on but his partner. "We took care of ourselves and our families. I established a habit of doing that. I took care of my own kids, and my partner's kids. I delivered my partner's babies, he delivered mine. We had confidence in each other, and we took routine care of each other's families."

When he moved his practice to Richfield, Miller maintained the precedent he had set. "Largely, within our own group, we've taken care of each other. Anytime we get into anything uncomfortable in any way, we seek help—we refer out."

However, a case can also be made for seeking care outside your own group. Kevin Nelson, M.D., who just joined Miller at the Richfield Medical Group last summer, discussed the options for the health care of his two young children carefully with his wife.

"We wanted to find a doctor for our whole family. We sort of both had a gut feeling that we should use someone outside of my new group. My partners helped identify another group similar to ours, and they will be our family doctors. I guess especially because I'm a family practitioner and I try to practice what I preach, I'll use the same doctor my family uses."

short, he remembers enough about his own pain to change the way he medicates his patients for pain. "I took care of a shoulder last week, and I know I was a lot more sympathetic to my patient's pain and was more willing to treat his pain than I was before my own experience."

Bretzke's daughter, Margit, a general surgeon in Minneapolis, agrees with her father's observations about personal experience with pain. "In medical school, I had knee surgery. I never forgot that. I couldn't believe the pain. If you've had pain, you're more likely to be appropriate about how to treat pain in your patients," said Bretzke, who also found an analogy with emotional pain when she suffered a miscarriage. "I've seen women with miscarriages as a resident and in the ER, but I never recognized how much pain they were in emotionally until I went through that myself. My own miscarriage has made me a lot more empathic."

Bretzke, who is now expecting her first child, didn't fully realize the bond between patient and physician until she, as a mother-to-be, became the patient. "As a doctor, I've always tried to keep a certain distance, to prevent patients from getting too dependent on me. But the last time I met with my doctor, I told her 'I can't believe how attached I'm getting to you!' If I have to miss an appointment because my schedule gets backed up, I really get frustrated, and I feel disappointed."

Nonetheless, she says she wants to be treated like any other obstetric patient—like any other expectant mother. "I try to act like anyone else. I don't want special treatment. For the most part, I think that's happening. I know most patients rotate among all the doctors in the group, but I always see my doctor exclusively. I think that's the only thing that's different."

But, of course, doctors aren't quite like other patients, because they are colleagues, and the treating physician must adapt to the new relationship. Instead of comfortably sharing the "inside track" on medical knowledge, the treating physician often struggles to create the more traditional doctor-patient relationship, and it can be tricky.

"The hardest part about treating physicians is to treat them like regular patients," says William Roberts, M.D., a sports medicine specialist and family physician at MinnHealth in White Bear Lake.

> "Knowing their own oncologist has cancer may be reassuring to patients, or it may be threatening—it's clear even I'm not immune, and I'm supposed to be the expert."
>
> *–Joseph Cardamone, M.D.*

"Physicians on the whole tend to be a hard-driving group," he says. "They can be the best or the worst of patients. They are well-informed; they are easier to teach. But, like most of my patients who are athletes, physicians want to be better yesterday. They are highly competitive."

Ironically, physicians may get short-changed on their own personal health care. Knowing that another physician will naturally be well-versed in medicine, the treating physician may not take the time to explain an injury or an illness fully.

"My patients who are physicians may or may not know or understand things that, to me, are second nature," says Roberts. "There is a tendency to assume they know about things that don't even fall within their specialty, to not spend the same time with them."

Marvin Segal, M.D., who practiced cardiology and internal medicine for more than 20 years and was vice president of medical affairs for Health One the past eight years, developed a specific approach to treating the many physicians and their families he saw during his years of practice.

"With doctors and their families, I always tried to explain and educate even more than with other patients," he says. "It's easy when you know someone to assume they have enough background knowledge that you can cut corners in your explanations, or even to assume that if you don't cut corners, if you don't act like they already know everything, you might offend them.

"Doctors and their families are people too and need full care—the best that we can provide," says Segal, who is now vice president and medical director for SelectCare. "I very strongly believe in using the educational process for them that I'd use for any patient. Explaining everything thoroughly. Going over the reasons we were doing every test, every treatment."

Cardamone has also treated other physicians. "I've been on that side, too. When you're taking care of another doctor, you want to do as well as you can.

You are tempted to not do things the routine way, but in changing patterns you may introduce error."

There are added pressures in caring for another physician, as well. It's a bit like taking a driving test—it's a task you do every day routinely and well, but when an expert is sitting next to you critiquing your every move, tiny difficulties are magnified and tension is high. Being judged by one's peers is significant in any field. When the situation is potentially a life-and-death one, when the patients are friends and colleagues, it can become strained.

Roberts has been the physician for several doctors and their families, always with happy outcomes. Even so, the shadow of darker possibilities is there.

"In family practice, I've cared for physicians' families. I've delivered babies of physicians. The scariest thing is that if something goes wrong, you know they'll know right away. If an error in judgment is made, they'll know immediately and they'll know the possible results. And, when you're taking care of people you care about personally, you feel that tremendous responsibility."

When physicians must rely on other physicians to care for themselves and their families, the result is often a deep appreciation for the profession of medicine and the level of dedication required. Perhaps being on the receiving end of good care serves to remind physicians of the extraordinary power and influence they can wield in their patients' lives.

"One of my daughters had a congenital defect and there was lots of surgery," says Burman. "I just remember so many good and warm relationships with the nurses and physicians who provided her care. I have only feelings of gratitude for the people who provided her medical care. And that's as a parent and a doctor."

The very essence of physicians' work is to deal regularly with illness and approaching death. Daily experiencing the dramas most people experience only a handful of times in their lives may require a certain toughness, a certain separation from the reality of illness. Ironically, it is that very toughness that can prevent physicians from learning the same lessons patients learn from disease and death every day.

"When we act as physicians, we have to divorce ourselves a little from the disease of our patient, from the consequences of that disease," says Nelson. "We must do this to act objectively. This may make it harder for us to eventually realize the impact of disease and injury on people. This may be why it is harder for physicians—why it can be such a shock for us to discover what pain is like, what fear is like, what it is like to walk in the shoes of the people we see in our offices every day." MM

Pamela Hill Lampert is a free-lance writer, editor, and consultant living in Minneapolis.

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Subependymoma of the Cervical Spinal Cord

A Case Report of Long-term Survival

Thomas A. Bergman, M.D., and Stephen J. Haines, M.D.

ABSTRACT

Subependymomas of the cervical spinal cord are relatively rare tumors. Thirteen cases have been reported in the literature with the longest reported follow-up and survival being six years. This paper describes a woman who survived for 14 years in reasonably good health after her diagnosis of cervical spinal cord intramedullary subependymoma. A review of reported cases and a discussion of subependymomas and their characteristics is included.

Subependymoma was originally classified as a distinct tumor by Scheinker in 1945.[1] Two cases were described of a tumor with a cell organization and morphology that duplicated the subependymal glia. Scheinker believed these tumors were derived from the subependymal cell plate, in contrast to the well-differentiated ependymal cells that are characteristic of ependymomas. Subependymomas are relatively rare and have a propensity for arising from the floor of the fourth ventricle, septum pellucidum, and lateral ventricles.[2-6] A large percentage of these tumors are asymptomatic and found on autopsy series.[5-7]

The vast majority of reported subependymomas have been in intracranial locations. To our knowledge, there have been 13 reported cases restricted to the spinal cord; the longest follow-up and survival was six years. The patient we describe in this case report survived for 14 years, longer than would be expected given the location of her lesion.

Case Report

A 35-year-old woman developed weakness in the left hand and leg and paresthesia in the left hand in 1971. A cervical myelogram revealed an almost complete block at C5-6 with a widened cord consistent with an intramedullary lesion. In May 1971, a C1-6 laminectomy revealed an intramedullary tumor that was subtotally resected. At the time of discharge, the patient was able to walk well and carryout daily functions, although her left arm remained quite weak. Histologic examination showed a moderately cellular tumor with a fibrillary background, interpreted as being an astrocytoma grade I with very unusual characteristics. The patient did not undergo radiation therapy.

The patient was followed clinically, and in late 1983 she complained of increased pain in her neck and shoulders and increased weakness in her right arm. Activities of daily living were becoming more difficult. A metrizamide myelogram and CT scan showed enlargement of the spinal cord at C2 and C3 (Figure 1). A syrinx was not identified. Nerve blocks of the left C2-4 roots were performed and resulted in significant pain relief, but because of the widened spinal cord, a repeat laminectomy was done in November 1983. A soft, brown, gelatinous tumor without cystic cavity was found within the cord. Although the tumor separated easily from the surrounding spinal cord, a small piece of tumor could not be removed in the cephalad portion of the myelotomy. Microscopic examination of the specimen showed uniform round tumor cells interspersed within prominent tangles of glial fibrils without mitoses or atypical cells, consistent with subependymoma (Figure 2). Postoperatively, the patient remained ambulatory with a weak but functional right upper arm. A CT scan of the posterior fossa did not reveal tumor.

The patient was followed until early 1985, when she progressively lost strength in her legs and right arm. Significant respiratory compromise was evident. An MRI scan revealed a markedly widened cord extending from the cervicomedullary junction to the low cervical region (Figure 3). At reoperation, a large recurrent yellowish-brown tumor was found along with severe spinal cord atrophy. The spinal cord expanded to near-normal size in the cervicomedullary junction. Using the ultrasonic aspirator, near gross total removal of the tumor was again accomplished. A small portion of tumor extending into the medulla was not excised. Pathologic examination revealed recurrent subependymoma with histology similar to the 1983 specimen (Figure 4).

Postoperatively, the patient did not improve and continued to suffer from severe quadriparesis. Interestingly, sensory function was preserved in her extremities. The patient became ventilator dependent and showed random cardiovascular changes, including hypo- and hypertension. The patient's condition continued to deteriorate, and she eventually died.

In summary, the patient maintained functional neurological control of her extremities from 1971 until late 1984. In total, three cervical operations were performed with the pathology showing a tumor consistent with subependymoma.

Discussion

Although the subependymoma is a distinct tumor, its exact cell of origin is unclear. Confusion exists as to whether the tumor arises from subependymal astrocytes, an ependymal variant, or has mixed origin. Rubinstein believes the tumor cells display characteristics consistent with an ependymal cell of origin.[5] Fu et al. attempted to answer this question with a comparative ultrastructural and tissue culture study.[8] In their summary, they conclude that the subependymoma is a variant of ependymoma and not a pure astrocytic tumor. Azzarelli et al. also performed an ultrastructural study on a subependymoma. They concluded that the tumor is composed of cells very similar to mature subependymal tissue and believe the subependymoma designation is well justified.[9] Most tumors have cells showing features of ependymoma cells and astrocytes. The tumors are characterized by small nests of cells scattered in a very fibular matrix. Small ependymal rosettes or perivascular pseudorosettes can also be seen.[5]

Thirteen cases of spinal cord subependymomas have been reported. The majority of these consist of intramedullary tumors occurring primarily in the cervical spinal cord. Two are cases of extramedullary tumors, both which occur in the cervical and cervical thoracic region (Table).[10,11]

Of the 13 previously reported cases, 11 of the patients were still alive at the time of their case report. Although it is difficult to tell their exact clinical condition, it appears that a majority of the survivors were doing reasonably well. Interestingly,

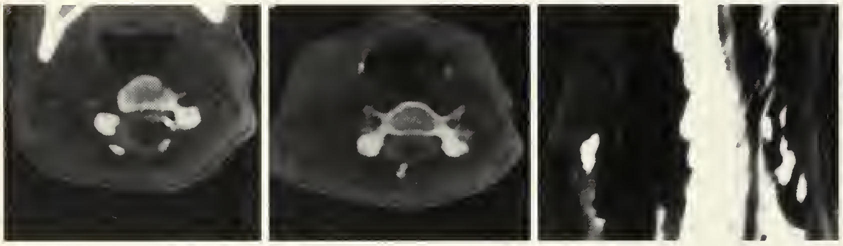

Figure 1—Computerized tomographic scans with intrathecal contrast enhancement of cervical spinal canal in 1983. Left—Axial section at C3 showing enlargement of the spinal cord. Metallic artifact from a surgical clip slightly degrades the image. Center—Axial section of C6 showing a somewhat atrophic spinal cord. Right—Sagittal reconstruction demonstrating enlargement of the spinal cord from C2-C4.

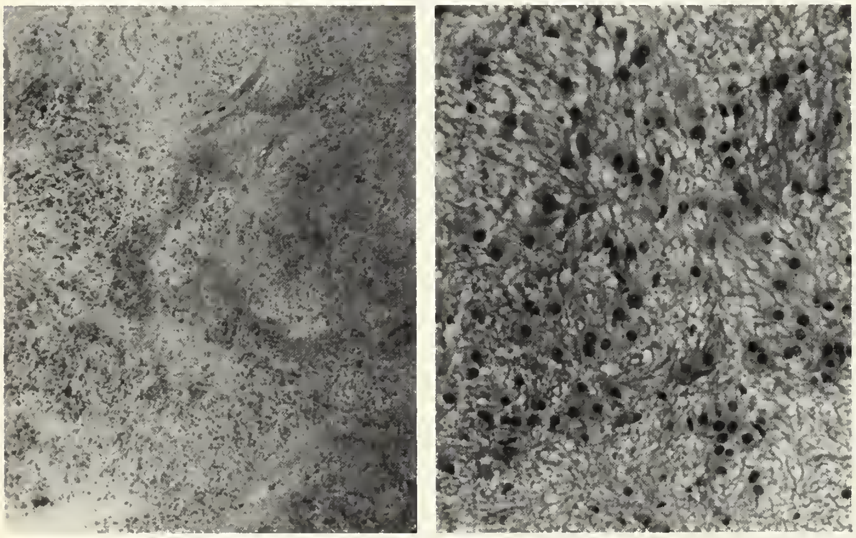

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Figure 2—Photomicrographs (hematoxylin and eosin) of tumor removed in 1983. A) low power (x120), B) high power (x300) showing uniform round tumor cells interspersed with prominent tangles of glial fibrils.

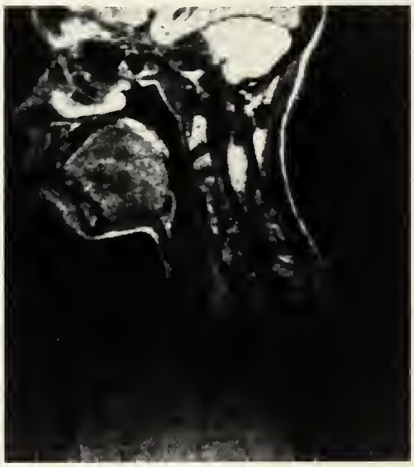


Figure 3—Sagittal magnetic resonance image of cervical spinal cord (0.35 Tesla, TR 1500 msec, TE 35 msec) showing expanded spinal cord with increased signal intensity extending from C3 to C4.

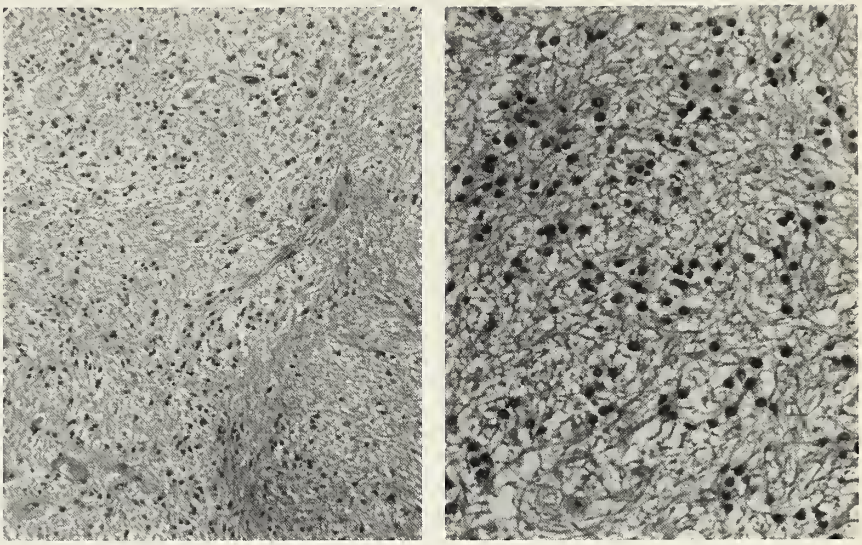
the longest reported follow-up and assumed survival was six years. The patient whose case we report here survived 14 years with relatively good preservation of neurological function. Although she suffered neurological deficit, she was able to function and live independently for many years. This long-term survival shows that subependymomas can have a rather benign and indolent course over a long period of time.

With regard to presentation, approximately one-half of intracranial subependymomas are asymptomatic.[6] The majority, if not all, of the reported intraspinal subependymomas are symptomatic. This is most likely due to the compressive effect of the intramedullary tumor on the relatively small confines of the remaining spinal cord and the spinal canal. From this case report, it is clear that even symptomatic patients can survive for many years.

An interesting question is whether complete removal of an intramedullary subependymoma would enhance survival or possibly result in cure. Spinal cord subependymomas can be either well demarcated[12,13] or intermixed with the normal cord tissue.[2,14] This relationship can affect the degree of possible resection. Present-day surgical technique may allow more aggressive removal of these tumors.

Very limited information is available regarding the role of radiation therapy with spinal cord subependymomas. Radiation therapy has not been routinely used in the reported cases of spinal cord subependymomas.[10-16] Cervos-Navarro et al. describe one patient who received radiation because the tumor was misdiagnosed as astrocytoma. That patient died one year after treatment.[17] Guha et al. treated their patient with 5,000 rads over six weeks.[2] The long-term follow-up is not available.

Our patient's length of survival suggests that removal of cervical intramedullary subependymomas can result in long-term functional survival. The question of adjunct therapeutic modalities, such as radiation therapy and/or chemotherapy, cannot be commented on given the small number of cases reported in the liter-


A x120

B x300

Figure 4—Photomicrographs (hematoxylin and eosin) of tumor removed in 1985. A) low power (x120), B) high power (x300) showing similar histology to the tumor removed in 1983 (see Figure 2).

Table

Subependymoma—reported cases of spinal cord involvement

Author	Region	Type	Follow-up
Bardello	Cervical	Intromedullory	5-yeor follow-up, doing well
Boykin	Cervicol Cervical	Intramedullary Extromedullory	Died immediately post-op 3-yeor post-op follow-up, severely hondicapped
Guha	Thorocic/lumbor	Intramedullary	Alive 5 months post-op
Cervos-Navorro	Unknown Unknown Unknown	Intromedullory Intromedullary Intromedullary	Alive at 6 yeors post-op Alive at 2 years post-op Died 1 year post-op
Lee	Cervical Cervical	Intromedullory Intramedullory	Approximotely 2-yeor follow-up, walking with a cane 15-month follow-up, doing well
Matsumuro	Cervicol/thorocic	Extromedullory	5-year follow-up, doing well
Pluchino	Cervical/thorocic/lumbar	Intramedullary	1-yeor follow-up, doing well
Salcman	Cervical	Intramedullary	Approximately 1-yeor follow-up
Vaquero	Cervical	Intramedullory	2-week follow-up

ature. It is clear that small portions of residual subependymoma can slowly regrow and again become symptomatic. We, therefore, suggest that gross total removal of these tumors be aggressively pursued to minimize the chance of recurrence. MM

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Any Port in a Storm

The Medicare and Medicaid Safe Harbor Regulations

Forrest G. Burke, J.D.

The Department of Health and Human Services (HHS) published on July 29, 1991, the final regulations describing payment arrangements that will not violate the Medicare and Medicaid Fraud and Abuse Statute (anti-kickback provisions). These safe harbor regulations cast doubt on the legality of certain relatively common arrangements, and one of the safe harbor provisions may require physicians to restructure their present ownership, referral, or other arrangements with separately incorporated health care services or facilities.

The Medicare and Medicaid anti-kickback provisions make it illegal for anyone to knowingly and willfully solicit, offer, pay, or receive any remuneration in return for 1) referring a patient whose health care costs are paid in whole or in part by Medicare or Medicaid, or 2) taking part in the purchase, lease, or order of any good, facility, service, or item that is paid in whole or in part by Medicare or Medicaid. Violation of these provisions can lead to criminal penalties, civil fines, and suspension or expulsion from the Medicare/Medicaid program. Federal appeals courts have indicated that an arrangement violates the anti-kickback provisions if *any* purpose of the arrangement is to reward or induce referrals.

In recent months, many commentators predicted that the Health and Human Services Departmental Appeals Board decision in the *Hanlester Network* case would narrow the broad "any purpose" rule the federal courts have adopted. At the trial-court level of *Hanlester*, an administrative law judge essentially ruled that no violation of the anti-kickback provisions occurs unless there is an actual or implied referral agreement that ties remuneration to Medicare/Medicaid business. The HHS inspector general appealed this decision, and on September 18, 1991, the HHS Appeals Board flatly rejected the trial court's requirement of a referral agreement. Consequently, the glimmer of hope reflected in the *Hanlester* case has dimmed, and compliance with the applicable safe harbor regulations is the only sure-fire approach to avoiding prosecution or liability under the anti-kickback provisions.

> "Compliance with the applicable safe harbor regulations is the only sure-fire approach to avoiding liability under the anti-kickback provisions."

The safe harbors deal with investment interests, space rentals, equipment rentals, personal services and management contracts, sales of professional practices, payments to employees, waivers of beneficiary deductibles and copayments, referral services, discounts, warranties, and group purchasing organizations.

Investment Interests

Two safe harbors relate to the ownership of investment interests in other businesses. An investment interest is considered a security issued by a business and may include stock, partnership interests, bonds, debentures, notes, or other debt instruments. An investor is considered an individual or entity who directly or indirectly holds an investment interest in a business (an indirect holding includes, for example, an interest held by a family member or a trust).

One of the two safe harbors will apply depending on the value of the business's undepreciated net tangible assets related to the furnishing of items or services. If the business's assets exceed $50 million, an investor's interest will be protected if all of the following five standards are met:

1. If the investment interest is stock, the stock is registered with the SEC;
2. The investment interest of an investor in a position to make or influence referrals, furnish items or services to the entity, or otherwise generate business for the entity (hereafter referred to as a referral source investor) is obtained on terms equally available to the public through trading on a registered national securities exchange;
3. Neither the entity nor any investor markets or furnishes the entity's items or services (or those of another entity as part of a cross-referral agreement) to passive investors differently than to non-investors;
4. The entity does not make loans to or guarantee loans for a referral source investor, if the investor uses any part of the loan to obtain the investment interest;
5. The amount paid to an investor in return for the investment interest is directly proportional to the amount of the investor's capital investment.

For the most part, any stocks or bonds physicians acquire that are traded on a national exchange will qualify for safe harbor protection.

"Cheap stock" or stock options offered to physicians as compensation for product development services would not satisfy the safe harbor requirements.

Investment interests in smaller businesses are protected if all of the following eight standards are met:

1. No more than 40 percent of the entity's revenues are attributable to referrals, items or services furnished, or business otherwise generated by investors;

2. No more than 40 percent of the value of each class of equity interests in the entity and other securities issued by the entity is held by referral source investors;

3. The investment terms offered to a passive investor (generally, anyone except a manager or general partner of the entity) who is in a position to make referrals are no different from the terms offered to other passive investors;

4. The investment terms offered to a referral source investor are not related to the investor's previous or expected volume of referrals;

5. There is no requirement that a passive investor make referrals or be in a position to make or influence referrals in order to remain an investor;

6. Neither the entity nor any investor markets or furnishes the entity's items or services (or those of another entity as part of a cross-referral arrangement) to passive investors differently than to non-investors;

7. The entity does not make loans to or guarantee loans for a referral source investor, if the investor uses any part of the loan to obtain the investment interest; and

8. The amount of payment to an investor in return for the investment interest must be directly proportional to the amount of the investor's capital investment (including the fair market value of any pre-operational services rendered to the entity).

For various reasons, almost all physician-owned health care facilities are incorporated as legal entities separate from the owners' medical practices. This makes the owners' equity and other security interests in the separate entities "investment interests." Common examples of separately incorporated businesses owned by physicians are ambulatory surgery centers, pharmacies, physical therapy centers, optical shops, medical supply companies, and imaging centers. Rarely will these investment interests satisfy either, much less both, of the two "40 percent" standards of this safe harbor regulation.

The preamble to the safe harbor regulations states that the 40 percent ceiling on ownership by referring investors may be satisfied if the investor signs "a written stipulation that for the life of the investment the investor will not make referrals to, furnish items or services for, or otherwise generate business for the entity." It is not yet certain whether the stipulation must bar *all* referrals, items, services, and business arrangements, or only those covered by the Medicare/Medicaid program.

> "The risk posed by a transaction that is not covered by the safe harbor regulations should be assessed by a health care attorney."

A proposed self-referral safe harbor regulation "leaked" in 1989 provided narrow protection for some of these arrangements. Although this proposal is not incorporated in the final safe harbor regulations published on July 29, HHS might publish a new notice of proposed rule making that includes it. The proposal would have protected many arrangements where a physician-investor refers a patient to an entity for items or services covered under the Medicare/Medicaid program, *provided* that 1) that the referring investor personally performs the principal professional service of his or her specialty at the entity, *and* 2) the investor's service is not a result of a referral from another investor in the entity, unless that person is an investor from the same practice group as the physician performing the service.

A physician with investment interests not covered by a safe harbor might consider one of the following four options. First, the physician could simply discontinue referring his or her Medicare/Medicaid patients to the business. HHS makes it clear in the discussion accompanying the safe harbor regulations that it would not be permissible to circumvent the regulation by entering into a cross-referral arrangement with another physician who has a similar facility. Second, subject to applicable provisions of state law, the physician could collapse the business and its employees into his or her medical practice. This option is particularly attractive for surgery centers and other facilities where professional services are rendered. Third, the business could sell enough additional equity interests so that no more than 40 percent of its revenue comes from investor referrals and no more than 40 percent of its investment interests are held by persons who make referrals or are in a position to make referrals. Fourth, the physician might consider selling the investment interest.

Space/Equipment Rentals and Personal Services/ Management Contracts

The two safe harbors for space and equipment rental agreements and personal services and management contracts provide that an arrangement will be protected if all of the following six standards are met:

1. The arrangement is embodied in a written agreement that is signed by the parties;

2. The agreement is for at least one year;

3. The agreement specifies the property covered by the lease or the services provided under the agreement;

4. The agreement, if it is intended to provide for periodic intervals of rental or service rather than full-time use, specifies exactly the schedule of those intervals, their precise length, and the exact payment for the interval; and

5. The aggregate compensation

is set in advance, is consistent with "fair market value" in arms-length transactions, and is not determined in a manner that accounts for the volume or value of referrals and other business that is paid in whole or in part by Medicare or Medicaid; and

6. The services performed under service agreements do not involve the counseling or promotion of a business arrangement or other activity that violates any federal or state law.

Numerous types of arrangements will not qualify for protection under these safe harbors. In particular, any equipment lease that computes rental payments based on use of the equipment will not be protected. Similarly, any professional services arrangement for which compensation is based on patient-volume or the number of procedures will be at risk. In addition, there may often be situations where a physician has a rental or services agreement with a business in which he or she has an investment interest. In these cases, the arrangement must satisfy all applicable safe harbors in order to qualify for protection.

Sales of Professional Practices

This safe harbor protects any payments one practitioner makes to another to buy the latter's practice, provided these two standards are met:

1. The period from the date of the first sale agreement until the completion of the sale is not more than one year (installment payments of the purchase price are permitted); and

2. The selling practitioner will not be in a position to refer Medicare or Medicaid patients to the purchasing physician or otherwise generate business for that physician if that business is funded in whole or in part by Medicare or Medicaid.

As a practical matter, the second standard will require that the selling practitioner retire from the practice or move to another location. The safe harbor will not be satisfied if the selling practitioner simply becomes the purchaser's employee. Purchases of a physician's practice by a hospital or group practice are not covered by this safe harbor; however, HHS may address these kinds of purchases in a subsequently issued safe harbor.

Payments to Employees

Another safe harbor provides that "remuneration" does not include any amount an employer pays a bona-fide employee for furnishing any item or service covered by Medicare or Medicaid. In this case, the term "employee" has the same meaning as it does for federal employment tax purposes.

Waivers of Beneficiary Payments

The safe harbors provide two narrow exceptions to the HHS's long-standing position that routine waivers of beneficiary coinsurance or deductible amounts violate the anti-kickback provisions. The new regulations state that the following waivers will be protected:

1. Any reduction or waiver of a Medicare/Medicaid beneficiary's obligation to pay coinsurance or deductible amounts that are owed to a hospital for inpatient hospital services for which Medicare pays under Part A on the basis of the prospective payment system, so long as a) the hospital does not later claim the amount reduced or waived as a bad debt for payment purposes under the Medicare program or shift the cost to anyone else, b) the hospital offers to reduce or waive the coinsurance or deductible amounts without regard to the reason for admission or the length of the beneficiary's stay, and c) the hospital's offer to reduce or waive the coinsurance or deductible amounts are not made as part of a price reduction between a hospital and a third-party payer;

2. Any reduction or waiver of a Medicare/Medicaid beneficiary's obligation to pay coinsurance or deductible amounts that are owed by an individual who qualifies for subsidized services under the provisions of the Public Health Services Act.

Safe harbor materials distributed by HHS contained the following statement with respect to waivers: "All other routine copayment waiver programs that are intended to induce [Medicare/Medicaid] beneficiaries remain subject to prosecution."

Referral Services

The safe harbor for referral services protects a referral service if it satisfies the following standards:

1. The referral service does not exclude anyone who meets the qualifications for participation;

2. Any payments made to the referral service are collected equally from all participants and are based only on the cost of operating the referral service—not on the volume or value of any participant's referrals or other business. The referral service must impose no requirements on the manner in which the participant provides services (except for nondiscriminatory billing requirements);

3. The referral service makes certain disclosures to each person seeking a referral and maintains a written record certifying the disclosure. The record of disclosure must be signed either by the person seeking the referral or the person making the disclosure on behalf of the referral service. The mandatory disclosures include:

- The manner in which the referral service a) selects the group of participants in the referral service (e.g., members of a particular professional society or trade association) and b) selects a particular participant from the group (e.g., in alphabetical order, by zip code, by subspecialty, or in rotation);
- Whether the participant has paid a fee to the referral service; and
- The nature of the relationship between the referral service and the group of participants to which patients are referred (e.g., membership in the society or association conducting the referral service) and the nature of any restrictions that would exclude the participant (e.g., loss of a valid and unrestricted medical license).

Discounts, Warranties, and Purchasing Organizations

The remaining safe harbors, which are generally less pertinent to most physicians than the others, protect discounts, warranties, and group purchasing organizations. As with the safe harbors already described, these safe harbors provide elaborate and technical standards that must be met for full protection. Physicians who do not meet all of the standards in these safe harbors are subject to investigation by the Office of Inspector General of the Department of Health and Human Services.

Failure to Comply with Safe Harbors

Where safe harbor compliance is not possible, parties should strive to satisfy as many standards of the applicable safe harbors as possible. In addition, the risk posed by a transaction or relationship that is not covered by the safe harbor regulations should be assessed by a knowledgeable health care attorney.

Ideally, an arrangement or relationship should not create any additional costs for the Medicare/Medicaid program and should not lead to over-utilization or other inappropriate use of items or services covered by the program. In addition, the arrangement or relationship should improve quality and access to health care, should not implicate medical ethics issues for the physicians involved, should improve competition in the marketplace, and should preserve a patient's freedom of choice. MM

The preceding general discussion is intended to alert physicians to the requirements of the Medicare/Medicaid safe harbor regulations. It is not intended as legal advice and should not be relied upon as such.

Forrest Burke is a member of Dorsey & Whitney's Health Practice Group, and he represents public, private, nonprofit, and business entities involved in the health care field in connection with corporate, tax, antitrust, general business, general litigation, regulatory, and general health care matters.

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Disabilities Discrimination in Public Accommodations and Services

What Physicians Need to Know About the Law

Forrest G. Burke, J.D.

The Americans with Disabilities Act of 1990 (ADA) addresses discrimination against individuals with disabilities in such critical areas as employment, public accommodation, government services, and telecommunications. Title III of the ADA specifically prohibits discrimination in the enjoyment of goods or services offered by a "place of public accommodation."

The Americans with Disabilities Act states that "no individual shall be discriminated against on the basis of disability in the full and equal enjoyment of the goods, services, facilities, privileges, advantages, or accommodations of any place of public accommodation by any person who owns, leases (or leases to), or operates a place of public accommodation."

The ADA's broad definition of public accommodation specifically includes hospitals, clinics, and health care providers' professional offices. Religious organizations and the entities they control are exempt from coverage as public accommodations under the ADA. Although the religious organization criteria are vague, it appears that only those hospitals owned, controlled, and financed by a religious organization will qualify for this exemption.

The ADA's statutory prohibitions against discrimination in places of public accommodation are similar to those contained in the Minnesota Human Rights Act. The final regulations issued by the United States Attorney General on July 26, 1991, to implement Title III of the ADA contain requirements and methods for eliminating disability discrimination in public accommodations. These regulations, which establish concrete requirements for compliance with the ADA, go well beyond the general requirements of the Minnesota Human Rights Act.

Definition of Disability

The Americans with Disabilities Act defines disability as "an individual's physical or mental impairment that substantially limits one or more of the major life activities of such individual; a record of such impairment; or being regarded as having such impairment." While the definition is extremely broad and encompasses almost every kind of demonstrable impairment, it specifically excludes transvestism, transsexualism, and other sexual behavior disorders; compulsive gambling, kleptomania, and pyromania; and psychoactive substance abuse disorders resulting from current illegal use of drugs. Although the use of illegal drugs does not constitute a disability, drug addiction is considered a disability. The ADA specifically prohibits denying health services or drug rehabilitation to an individual on the basis of current illegal drug use. Testing positive for the human immunodeficiency virus is also recognized as a disability under the ADA. Homosexuality and bisexuality are not impairments and are not considered disabilities.

> "The ADA's broad definition of public accommodation specifically includes hospitals, clinics, and health care providers' professional offices."

The ADA requires places of public accommodation to afford individuals with disabilities full and equal opportunity to enjoy the goods, services, facilities, privileges, and accommodations provided to the public. These goods and services must be provided in the "most integrated setting" possible. "Full and equal enjoyment" of goods or services is defined as the right to participate and have an *equal opportunity* to obtain the same results as others. It does not mean that an individual with a disability must achieve the same result as persons without disabilities. In addition, the ADA provides that an entity may deny services to individuals if they pose a direct threat to the health and safety of others.

The "integrated setting" concept is intended to ensure that disabled individuals will be included in mainstream society; the ADA is not meant to promote special or separate services for disabled individuals. For example, if a hospital or clinic sponsors childbirth and parenting classes for patients, the ADA would require the classes to use appropriate and effective means to communicate in an integrated setting with all patients, regardless of disability. A separate set of classes offered only to hearing-impaired patients would not satisfy the ADA's goal of integration.

Hospitals, clinics, and other health care providers routinely accommodate individuals with disabilities and may assume they already comply with the ADA. Although many hospitals and larger clinics maintain facilities that promote access for individuals with disabilities, all health care providers will need to examine their methods of communicating with patients. Because of the great specificity of the regulations, many hospitals and clinics will need to modify their policies and practices.

Public Accommodation Discrimination

Under the Americans with Disabilities Act, discrimination occurs when a place of public accommodation fails to: 1) make "reasonable modifications" in policies, practices, and procedures to afford services to individuals with disabilities, unless these modifications would "fundamentally alter" the nature of the services, 2) provide "auxiliary aids and services" to ensure that individuals with disabilities are not treated differently from other individuals, unless the auxiliary aid or service would "fundamentally alter" the nature of the service or would result in an "undue burden," 3) remove structural, architectural, and communication barriers, if the removal of these barriers is "readily achievable," 4) provide services through alternative, readily achievable methods if removal of architectural and communication barriers is not readily achievable, 5) make all new facilities readily accessible to individuals with disabilities, and 6) when making alterations to existing facilities, include changes that, to the maximum extent feasible, provide accessibility to individuals with disabilities.

The modification of policies and procedures or the provision of auxiliary aids and services that would "fundamentally alter" the nature of services is not required. Although the meaning of "fundamentally alter" is not defined in the ADA, cases interpreting section 504 of the Rehabilitation Act of 1973 address the concept of "fundamental alteration." These cases indicate that alterations that significantly change the purpose or threaten the viability of an activity are fundamental alterations. For the most part, the ADA and its Title III regulations envision modifications that would only improve access for and communication with individuals with disabilities. Because most modifications would not interfere with services to other patients, the fundamental alteration exemption will only apply in a few cases.

Auxiliary Aids and Services

The provision of auxiliary aids and services to individuals with disabilities is a primary goal of the ADA. Generally, the regulations require each public accommodation to furnish "auxiliary aids and services where necessary to ensure effective communication with individuals with disabilities." To make orally delivered messages available to individuals with hearing impairments, for example, the regulations suggest qualified interpreters, notetakers, written materials, telephone handset amplifiers, assistive listening devices, telephones compatible with hearing aids, television decoders, and telecommunication devices for deaf persons (TDD). It lists qualified readers, taped texts, audio recordings, braille materials, large-print materials, and other methods to make materials available to individuals with visual impairments.

More specifically, the ADA requires a public accommodation to make a TDD available if it regularly offers customers, clients, or patients the opportunity to make outgoing telephone calls. For example, if a hospital provides inpatients with telephone service, a TDD should be provided for deaf patients, and an amplified or hearing-aid-compatible telephone should be available for hearing-impaired patients. A public accommodation is not required to use a TDD for receiving or making telephone calls related only to its own operations. Hospitals that provide patient information through soundtracks, films, videos, or slide shows must provide closed-captioning.

The regulations also indicate that the adequacy of an auxiliary aid or service may depend on the circumstances and importance of the communication: While notes may be effective for a deaf person when shopping, they may not be effective when the person must decide on major surgery.

The provision of auxiliary aids and services is not required if it would impose an "undue burden," which is generally defined as a "significant difficulty or expense."

Determination of whether an action would result in an undue burden to the entity will be made on a case-by-case basis and will consider the following factors: 1) the nature and cost of the action required, 2) the overall financial resources of the facility involved, the number of its employees, and the financial impact on the facility, 3) the entity's financial resources, and 4) the geographic, administrative, and fiscal relationship of the facility to the covered entity.

Barriers in Existing Facilities

The removal of structural, architectural, and communication barriers is required where such removal is "readily achievable." The term "readily achievable" is defined as "being easily accomplishable and able to be carried out without much difficulty or expense." In order to determine whether the removal of a barrier is "readily achievable," the regulations require entities to consider the same factors as when evaluating an "undue burden." However, the Congressional Committee Reports suggest that the "readily achievable" standard is intended to present a significantly lower hurdle. The "readily achievable" determination will also be made case by case.

The regulations list numerous examples of "readily achievable" changes, including installing ramps; modifying curbs, sidewalks, and entrances; lowering shelves and rearranging tables, chairs, vending machines, display racks, and other furniture; lowering telephones; adding raised letter markings on elevator control buttons; installing flashing alarm lights; widening doors; eliminating turnstiles; installing accessible door hardware; installing raised toilet seats and grab bars in bathroom stalls; installing full-length bathroom mirrors; lowering paper towel dispensers or hand dryers in bathrooms; and installing accessible paper cup dispensers at water fountains.

The regulations specify that places of public accommodation should pursue the removal of barriers in the following order of priority: 1) provide access from public sidewalks, parking, or public transportation, 2) provide access to bathroom facilities where they are used by the public more than incidentally, 3) take measures to provide access to those areas where goods and services are made available to the public, and 4) take any other measures to provide access to the goods and services offered to the public.

Both the building owner and the tenant who operates the public accommodation are responsible for removing the barriers. Depending on the leasing arrangement, the building owner is generally responsible for removing barriers in the building's common areas, while the tenant is required to make modifications within the public accommodation itself. For example, if a hospital-owned office building contains a physician's office, the office may be required to make readily achievable modifications within the office, while the hospital would be required to make modifications to the building's primary entrance and other common areas.

Requirements for New and Existing Facilities

In general, all facilities designed and constructed for first occupancy after January 26, 1993, must be "readily accessible" to individuals with disabilities. This requirement asks for a high degree of convenient accessibility but does not require access to every area in the facility.

While the ADA requires the "readily achievable" removal of barriers, it does not require the re-design of existing facilities. If, however, renovations or alterations are undertaken that could affect access to the facility, the renovations must maximize accessibility for individuals with disabilities. More specifically, newly designed or constructed facilities must comply with the regulations and specifications in the ADA Accessibility Guidelines and with the regulations issued by the Architectural and Transportation Barriers Compliance Board.

Enforcement and Compliance

Any individual or the U.S. Attorney General may file suit against a public accommodation for violation of the Americans with Disabilities Act. Remedies available include injunctive relief, payment of attorneys' fees, and monetary damages. No punitive damages may be awarded under the ADA. Violators may also be subject to civil penalties up to $50,000 for the first violation and $100,000 for subsequent violations. By including attorneys' fees, the ADA is facilitating private enforcement by individuals with disabilities regardless of their ability to pay for an attorney.

Title III of the ADA will be effective January 26, 1992. Except for situations involving new construction and alterations, no civil action may be brought against businesses with 25 or fewer employees and gross receipts of $1 million or less prior to July 26, 1992, and no civil actions may be brought against businesses with 10 or fewer employees and gross receipts of $500,000 or less before January 26, 1993.

In light of the ADA's broad scope and the specific requirements contained in its regulations, hospitals, clinics, and other health care providers should review, with the assistance of competent legal counsel, the goods, services, facilities, privileges, and accommodations they offer to ensure that individuals with disabilities can fully benefit. In particular, health care providers should evaluate the adequacy of their communication and service to patients. MM

The preceding general discussion is intended to alert physicians to the Title III ADA requirements with which they will have to comply. It is not legal advice and should not be relied upon as such.

Forrest Burke is a member of Dorsey & Whitney's Health Practice Group, and he represents public, private, nonprofit, and business entities involved in the health care field in connection with corporate, tax, antitrust, general business, general litigation, regulatory, and general health care matters.

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Medical Judgments to be Crucial in New Disability Act

What Physicians Need to Know About Their Role

Robert L. Hobbins, Esq., and David Y. Trevor, Esq.

Title I of the Americans with Disabilities Act (ADA),[1] which will become effective July 26, 1992, is likely to have significant impact on the medical profession. In this article, we discuss the ADA provisions that prohibit discrimination in employment on the basis of disability and the role of physicians and other medical professionals as consultants and experts. (For a discussion of how places of public accommodation, including hospitals, clinics, and professional offices, must comply with the ADA, see page 29.)

What Is the ADA?

The Americans with Disabilities Act, passed in 1990, prohibits various kinds of discrimination against individuals with disabilities. Under Title I of the act, employers cannot discriminate against a qualified individual with a disability. The act applies to virtually every aspect of the employment relationship, including the failure to make "reasonable accommodations to the known physical or mental limitations of an otherwise qualified individual" and the use of "qualification standards, employment tests, or other selection criteria" that tend to screen out disabled individuals. The Equal Employment Opportunity Commission has power to enforce the ADA, but individuals can also file suit. The remedies available to successful plaintiffs include a full range of "make-whole" relief, such as reinstatement to the job, recovery of lost pay, recovery of attorneys' fees for the litigation, as well as injunctive relief requiring the employer to comply with the act. Considering that some 43 million Americans have one or more physical or mental disabilities—a number that is increasing as the population grows older—the legislation has tremendous potential for claims, charges, and lawsuits involving disabilities in the workplace.[*] Health professionals will certainly occupy a central position in such disputes.[2]

> "The ADA requires employment decisions regarding disabled individuals to be based on objective medical facts."

The Physician's Role

The terms and concepts used in the Americans with Disabilities Act require specific medical judgments, and physicians can expect employers, employees, and lawyers to ask them such questions as whether an individual is covered by the ADA, whether an employer has complied with the act, and what is required to comply with the act.

Medical judgments will be crucial in five areas under the employment-related provisions of the ADA:

1) Determining whether an individual has a disability;

2) Determining whether the disabled individual is qualified to perform a particular job and what "reasonable accommodations" are necessary;

3) Determining whether an individual with a disability poses a "direct threat" to his or her own health or safety or that of others;

4) Evaluating drug or alcohol use in relation to a job; and

5) Determining the proper use of medical examinations and information during the hiring process and the employment relationship.

When health care workers are called upon to give opinions, they should keep in mind that the ADA requires employment decisions regarding disabled individuals to be based on objective medical facts. Judgments must also be made in light of the specific job's requirements and the particular effects of the individual's disease or injury. Generalized information about the "normal" results of a given medical condition or about the "average" machinist's job, for example, will often be insufficient. The employer, employee, or attorney seeking the doctor's opinion will likely press for great specificity—possibly more than medical knowledge will permit.

Basic Structure of ADA Employment Provisions

The central theme of Title I of the ADA is relatively simple: An employer may not discriminate against a person with a disability because of that disability. Moreover, even if the disability impairs the person's job performance in some way, the employer is required to make reasonable accommodations to permit the employee to perform the job.

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[*] The Minnesota Human Rights Act, Minn. Stat. §363.01, et. seq., has prohibited discrimination on the basis of disability in employment for a number of years. The terms of the Minnesota statute are, in many respects, similar to those of the ADA. The volume of private lawsuits involving allegations of disability discrimination in Minnesota, however, has remained relatively small. Nevertheless, the number of such suits and claims, even in Minnesota, is expected to increase significantly because of the greater awareness and interest in disability discrimination generated by passage of the ADA.

However, in determining whether the act applies to a particular situation, certain definitions must be applied to decide, for example, whether the individual has a disability and whether he or she is qualified for the job as defined by the ADA. Such questions will require informed medical judgment.

Definitions and Concepts

Disability

One of the ADA's most carefully defined terms is "disability" itself. The meaning is critical because the act applies only to individuals with disabilities. The term is defined as "a physical or mental impairment that substantially limits one or more of the major life activities of the individual; a record of such impairment; or being regarded as having such an impairment."

Physicians will be concerned principally with impairments that substantially limit major life activities. Under regulations propounded by the Equal Employment Opportunity Commission (EEOC), several of the definition's key terms are further defined. A physical or mental impairment is considered to be:

- Any physiological disorder or condition, cosmetic disfigurement, or anatomical loss affecting one or more of the following body systems: neurological, musculoskeletal, special sense organs, respiratory (including speech organs), cardiovascular, reproductive, digestive, genitourinary, hemic and lymphatic, skin, and endocrine; or
- Any mental or psychological disorder, such as mental retardation, organic brain syndrome, emotional or mental illness, and specific learning disabilities.

Major life activities include functions such as caring for oneself, performing manual tasks, walking, seeing, hearing, speaking, breathing, learning, and working. Note that the definition does not include any particular job or vocation, but rather the more general function of "working." Accordingly, a physical or mental impairment that precludes an individual from performing a particular job or type of work but leaves other work options unaffected should *not* be regarded as a disability under the act.

> "Those seeking the doctor's opinion will likely press for great specificity—possibly more than medical knowledge will permit."

A person with a "substantially limiting" impairment is considered:

- Unable to perform a major life activity that the average person can perform; or
- Significantly restricted as to the condition, manner, or duration under which an individual can perform a particular major life activity as compared with the average person in the general population.

The following factors should be considered in determining whether an individual is substantially limited in a major life activity:

- The nature and severity of the impairment;
- The duration or expected duration of the impairment; and
- The permanent or long-term impact, or the expected impact, of the impairment.

The medical judgments involved in determining whether a specific condition constitutes a disability are many and varied. First, the physician must determine whether the individual has a physical or mental impairment as defined by the act. The act provides that an impairment may be as specific as a physiological disorder affecting the endocrine system or as general as "emotional or mental illness." Having determined that such a condition exists, the physician must decide whether the condition substantially limits some major life activity. This involves not only a fairly precise description of what the individual cannot do, but also a comparison with what "the average person in the general population" can do. Thus, a physician asked to determine whether a person suffers from a disability must know the specifics of the patient's condition as well as the general norms of performance. Moreover, because nearly any significant physical or mental condition will have at least *some* impact on the patient's activities, the crucial judgment will often be whether that impact is "substantial" or "significant."

Two points are worthy of note here. First, the broad definition of disability means that virtually any field of medicine may be implicated. Cases under pre-ADA statutes prohibiting disability discrimination involve conditions as varied as back injuries, blindness, hearing impairments, loss of limb, epilepsy, asthma, chemical dependency, and a wide range of emotional and mental disorders. Second, there are no definitive standards to assist in making evaluations. For example, if a back injury prevents an individual from lifting more than five pounds, that person is clearly substantially limited in "performing manual tasks." If the individual can lift up to 100 pounds, the limitation is minor. But what about cases in between? Physicians are likely to be asked whether a person with a 35-pound lifting restriction is "substantially limited." They will also be asked to justify their answers.

Qualified individual with a disability

To be protected under Title I of the ADA, an individual must be a "qualified individual with a disability," defined as "an individual with a disability who, with or without reasonable accommodation, can perform the essential functions of the employment position that such individual holds or desires." Reasonable accommodation includes making facilities accessible; restructuring the job; modifying work schedules;

reassigning duties; providing special equipment, qualified readers, or interpreters; and making "other similar accommodations."

Here, medical judgment must be based on an analysis of particular job duties and accommodations that could allow the individual to do the job. For example, it would not be enough to determine that a psychological condition makes it difficult for a patient to handle stress. The physician—or other person making the determination—must evaluate the amount of stress the individual can endure compared with the amount of stress he or she is likely to encounter on the job. The physician must then determine whether the job is too stressful, which will require an assessment of the job in question.

To complicate matters further, the physician must then evaluate whether certain changes in job conditions (accommodations) would reduce the stress to a level the individual can tolerate. For example, a postal employee who was a Vietnam veteran suffered from an anxiety disorder. Working a different shift than his wife and having to battle heavy traffic while commuting to work created unacceptable levels of stress. The reasonable accommodation proposed was that he be transferred to a different shift at an office closer to home. Although the actual lawsuit was decided on other grounds, the case required competent medical evidence showing, 1) that the veteran suffered from the anxiety disorder, 2) that the disorder substantially limited him, 3) that the stress he encountered at work was unacceptably high, and 4) that the proposed reduction in stress would enable him to perform the job.

A more common example is a heavy-lifting limitation imposed on an individual with a back injury. The physician will be asked to determine how much is too much to lift and how often lesser weights can be lifted. The physician may be asked to evaluate whether proposed accommodations (e.g., mechanical devices to aid in lifting and carrying or a redesign of the work station) would enable the individual to perform the job without serious risk of injury.

Understanding the specific medical condition and the specific job is crucial in such cases. Employers and employees will need to determine more than whether the individual is fit for "light" or "medium" duty. They will need to determine, for example, whether the individual can lift 30-pound crates of particular dimensions two or three times a day, sit for an hour without a break, and bend or twist repetitively.

Physicians may also find themselves working with rehabilitation experts to help determine whether a proposed accommodation might be effective. In a recent Minnesota case, a woman with severe memory loss due to a stroke tried to return to her former position as a housekeeper in a nursing home. She could no longer remember her duties sufficiently to clean floors while working alone. However, she proposed that the nursing home adopt a team cleaning approach, and she produced evidence showing that she could perform her duties if she worked with another housekeeper. When her employer refused to make this change, she sued. The court ordered the nursing home to reinstate the woman to her job and reorganize the cleaning system to accommodate her. If the woman had not been able to produce evidence that she could perform her duties under a team cleaning approach, she would presumably have lost the case.

While the definition of "disability" involves relatively pure medical judgment, the concepts of "qualified individual with a disability" and "reasonable accommodation" require a hybrid evaluation, incorporating both medical information and knowledge of the workplace. They also involve tailored evaluations because the definitions apply only to one specific job or job opportunity. The medical profession will need to become involved in the workplace more than ever before.†

Normative assessments based on the average person with a particular condition or the normal duties of a particular occupation are not likely to suffice. Congressional findings outlined in the act report that the United States has a history of discrimination against persons with a disability "resulting from stereotypic assumptions not truly indicative of the individual ability of such individuals to participate in, and contribute to, society." Here and throughout its definitions, the act emphasizes the need for individualized assessment of the disabled person.††

Direct threat

Another issue physicians will confront in dealing with the ADA is the concept of "direct threat." Simply stated, an employer has no obligation to hire or continue to employ an individual who poses a direct threat to his or her own health or safety or that of others. Clearly, this is an area requiring medical judgment. The EEOC's regulations specifically state that the determination of whether an individual poses a direct threat "should be based on a reasonable medical judgment that relies on the most current medical knowledge and/or on the best available objective evidence." The determination must also be based on the duration of any risk, the nature and severity of potential harm, and the likelihood that the potential harm would occur. Under the ADA's definitions, the risk to health or safety of others must be "significant."

An employer's paternalistic determination that an employee should be denied work for his own good, or an unscientific and unsupported belief that the individual may endanger others, is clearly no longer sufficient (if it ever was). For example, if a person with epilepsy seeks work requiring the use of heavy machinery, the employer might fear that a seizure could lead to death or serious injury of the individual or other employees. But to comply with the law, the employer must show with a fair degree of precision what the risks are and whether they can be minimized by some accommodation. In the above case, the employer might ask the physician what the statistical likelihood is of the employee suffering a seizure while on the job. Further, he might ask about the likelihood of a seizure causing serious injury. The employer might then ask the physician to evaluate possible accommodations—anything from a change in the patient's medication to the construction of safety devices in the plant. The employee will ask the same kinds of questions but will probably hope for different answers, leaving the physician caught in the middle.

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† When disputes under the act result in litigation, attorneys for the parties are likely to insist that medical professionals who will supply expert opinion testimony actually visit the workplace to observe first-hand the performance of the job at issue.

†† For an excellent discussion of this issue and a description of a clinical psychologist's role in an employment context, see: Maffeo. Making nondiscriminatory fitness for duty decisions about persons with disabilities under the Rehabilitation Act and the Americans with Disabilities Act. Am J Law Med 1990; 16:279-326.

Illegal use of drugs and alcohol

The ADA attempts to walk a relatively fine line with respect to drug and alcohol use. Basically, alcoholism or chemical dependency can be a disability, but the *use* of alcohol or drugs is not protected. Thus, an employee or applicant who is currently using illegal drugs is not a qualified individual with a disability. Moreover, employers are entitled to prohibit the use of drugs or alcohol in the workplace and to prohibit employees from appearing at work while under the influence of drugs or alcohol.

However, an individual may have a disability if he or she "has successfully completed a supervised drug rehabilitation program and is no longer engaging in the illegal use of drugs, or has otherwise been rehabilitated successfully," or if he or she is currently "participating in a supervised rehabilitation program" and not currently using drugs.

The physician, therefore, may be asked to determine whether an individual has "successfully completed" a rehabilitation program. This may involve some subjective judgments. More objectively, but perhaps no easier, the physician (or laboratory) will certainly be asked to determine whether an employee or applicant is currently using illegal drugs and, if possible, whether the individual was using drugs or alcohol—or was under the influence—while at the workplace. This may involve some fairly precise judgments about the time drugs or alcohol were taken and how long the individual was under the influence.

Medical examinations and inquiries

The ADA also affects employers' use of physical examinations and questioning of applicants and employees. To limit unnecessary dissemination of private medical information and to prevent the employer from making employment decisions based on the existence of a disability, the employer is generally prohibited from asking whether an employee has a disability or is a "qualified individual with a disability." Thus, except in special circumstances, the employer is prohibited from determining if a person is disabled.

The most significant special circumstances are that 1) the employer may make inquiries and have medical examinations conducted to determine "the ability of an applicant to perform job-related functions," and 2) after a conditional job offer has been extended, the employer may conduct examinations and inquiries into an individual's disabilities provided such examinations are "job-related and consistent with business necessity."

The physician must, therefore, be prepared to show how the examinations and tests are "job-related and consistent with business necessity." This can be done by relating the questions and information to specific job functions. For example, if an employee is offered a position that involves heavy lifting, the employer is clearly within its rights to request a medical determination of the employee's ability to perform lifting without injuring him or herself or others. If the employee is hired for a strictly administrative position with no heavy lifting, such inquiries would be suspect. The physician and the employer must work together to fashion job-related examinations. A construction worker would not appropriately be given the same examination as a secretary, who would not be given the same examination as a truck driver. If the employer and physician do not work together to develop a defensible examination, the employer is exposed to liability.

Conclusion

As the ADA's effective date approaches, medical professionals should prepare themselves for a host of questions and requests from employers, employees, and their advocates—questions that will require specific responses based on in-depth knowledge of the patient and the workplace. **MM**

The preceding general discussion is intended to alert physicians to ADA provisions prohibiting employment discrimination on the basis of disability and to examine the role physicians can expect to play as consultants and experts. It is not intended as legal advice and should not be relied upon as such.

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Halting the March Toward a Centralized, Bureaucratically Managed Health Care System

Thomas A. Stolee, M.D.

What in the world do the Soviet Revolution of 1991, the British National Health Care plan, and the American health care system have in common?

I'm writing this while on a plane returning from a two-week trip to the United Kingdom during which I had an opportunity to view British medicine. Note that I said trip, not tour, since my wife and I prefer to see and hear what we want rather than what somebody else decides to feed us. During this time, we made unannounced visits to health care facilities, read everything we could get our hands on about British medicine, and talked to many people from all walks of life. At the same time, we digested the British media's superb coverage and analysis of the historic events occurring in the Soviet Union.

Soviet communism was a 74-year enterprise whose major accomplishment was lasting 74 years, albeit only through totalitarian methods. Whereas a market economy is based upon rewards for those who achieve, a centralized, bureaucratically managed system such as communism is based upon negative reinforcement. Only a fool could believe that human achievement and resourcefulness could reach their acme under such a system.

Alas, the British health care system, which is centrally organized and managed from the top down rather than the bottom up, has much in common with Soviet communism. As I see it, the British system is destined to failure. In fact, with apologies to my British colleagues, I feel that it already has failed.

An annual deficit of 1.8 billion pounds, a one-million-person waiting list, 531 hospital closures, antiquated hospitals, government-decreed rationing, and no capital-expense budgeting constitutes a glimpse of Britain's present system. More than 30 years ago, I did clinical clerkships at the old St. Paul Ancker and Minneapolis General hospitals. Those of you who share my gray hair, or lack thereof, remember the large, noisy, multi-bed wards. These appear to be the standard in Britain today.

"Under our current health care system, the individual patient has no interest in cost and no knowledge of quality."

I would not want to be a doctor in Britain any more than I would want to be a patient there. British doctors seem to be well trained, well motivated, and devoted to patients, but they are handicapped by the bureaucracy and a relative lack of tools.

Now for the scary part and the point of this soliloquy: I am convinced that this is exactly where American medicine is headed unless we make a serious effort to lower the cost of health care, eliminate duplication of facilities, optimize the benefit/cost ratio, and develop reasonable parameters of care and accountability for quality.

Market economy competition sounds good, but in most product lines, competition and market forces are based on competitive pricing for the same quality or by demonstrable differences in quality for the same price. Therefore, in medicine, we must develop a system for quality and cost accountability. In addition, the consumer must have a greater stake in decision making. Under our current health care system, the individual patient has no interest in cost (it's the government's or insurance company's problem) and no knowledge of quality. Without those elements, market forces cannot function. The alternative is a centrally managed bureaucratic supply system.

Minnesota is in many ways ahead of the pack, and I salute our many physicians who have devoted hours of their time to developing meaningful systems of peer review, quality assessment, quality improvement, and managed health care. It is physicians who can save our free-enterprise system. For those of you who continue to foster duplication of services in the name of competition with no eye toward total systematic costs or quality, I would admonish you that government-managed health care, if it comes, is largely your responsibility.

I ask you, as members of the Minnesota Medical Association, to take your wagons out of the circle and work together as an organization to give your patients the most for the least. **MM**

WHEN YOU DON'T KNOW WHERE TO TURN FOR LEGAL ADVICE ...

MMSC is AT YOUR SERVICE

As a service to Minnesota Medical Association members and their clinics, the Minnesota Medical Services Corporation has compiled the Legal Services Resource List. The MMSC will send you, at no charge, individual profiles of law firms that have met MMSC's participation requirements, including completion of a survey, provision of references, and level of resources devoted to providing legal services to Minnesota physicians. Some of the services listed below are provided by non-attorneys.

A list of non-legal consultants, the MMSC Management Consulting Resource List, is also available. For more information, write to the MMSC staff at 2221 University Avenue S.E., Suite 400, Minneapolis, MN 55414, or call 612-378-0305 or toll-free 1-800-999-1875.

Law Firms

Dorsey & Whitney

Faegre & Benson

Fredrikson & Byron, P.A.

Larkin, Hoffman, Daly & Lindgren, P.A.

Lommen, Nelson, Cole & Stageberg, P.A.

Popham, Haik, Schnobrich & Kaufman, Ltd.

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SERVICES
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The Legal Services Resource List, a special service for Minnesota Medical Association members and their clinics, was compiled by the Minnesota Medical Services Corporation, the product and service subsidiary of the MMA. Neither the MMA nor the MMSC endorses these companies or makes judgements regarding their services. Categories of service listed above are not all inclusive; call MMSC for a more complete listing.

People and Places Making Medical News

People

Jacott Receives Top MMA Honor

The Minnesota Medical Association presented William E. Jacott, M.D., with its highest honor, a Distinguished Service Award, September 19 for his outstanding contributions to medicine and the association.

Jacott, who received the award at the MMA's annual meeting, is assistant vice president for Health Sciences at the University of Minnesota in Minneapolis and an associate professor of family practice in the Department of Family Practice at the university's medical school. Since 1974, he has been a member of the MMA's Board of Trustees, and since 1989, he has been a member of the AMA's Board of Trustees. He was recently re-elected president of the AMA's Education and Research Foundation and has been appointed one of the AMA's seven commissioners to the Joint Commission on Accreditation of Healthcare Organizations.

RPAP Founder Honored

John E. Verby, M.D., is the recipient of the Thomas W. Johnson Award presented by the American Academy of Family Physicians. The academy presented the award, which honors outstanding contributions to family practice education, September 26 at its 43rd Annual Convention and Scientific Assembly in Washington, D.C.

Verby is a professor in the Department of Family Practice and Community Health at the University of Minnesota Medical School in Minneapolis. He is also director and founder of the university's Rural Physician Associate Program, which is credited with helping to ease the shortage of family physicians in rural Minnesota.

Ramsey Commissioner Awarded

Ramsey County Commissioner Diane Ahrens received the 1991 Betty Hubbard Maternal and Child Health Leadership Award at a meeting of the state Maternal and Child Health Advisory Task Force in Minneapolis. She was cited for her leadership in addressing the health needs of mothers and children in Minnesota.

The Hubbard award is presented annually by the MCH Task Force and the Minnesota Department of Health. Nominations are submitted by people active in maternal and child health in the state.

HealthEast Midway Staff

The HealthEast Midway Hospital medical staff elected orthopedic surgeon L. John Gramer, M.D., chief of staff. He succeeds Brooks Butler, M.D., a general surgeon.

Anton Spraitz, M.D., an obstetrician-gynecologist, is the hospital's new chief-of-staff elect; John Mageli, M.D., is chairman of the department of medicine; Keith Chilgren, M.D., is chairman of family practice; Roman Schneider, M.D., is chairman of obstetrics-gynecology; and Fredrick Washburn, M.D., is chairman of surgery.

MedCenters Medical Director

MedCenters Health Plan hired David W. Griffin, M.D., in September as part-time associate medical director. Griffin's responsibilities in the newly created position will be to assist in overseeing the HMO's medical policies and utilization management over the patient appeal grievance process. He will be working directly with James Hartert, M.D., MedCenters full-time associate medical director, and George Isham, M.D., medical director.

In addition to working for the HMO, Griffin is a pediatrician at Park Nicollet Clinic.

MHA Chair-Elect

William Maxwell, executive vice president of integrated network operations for the Fairview hospital system, has been elected chair-elect of the Minnesota Hospital Association. As chair-elect, he will serve as an officer on MHA's Board of Trustees for three years. His term begins in January 1993.

John Frobenius, president of Saint Cloud Hospital, will chair the organization through 1992.

MHA Honors Lois Quam

The Minnesota Hospital Association gave Lois Quam, chair of the Health Care Access Commission and director of research and development at United HealthCare Corporation, its Public Achievement Award in September for her work to expand access to health care. The award is given for extraordinary service in the formation of health care policy.

As chair, Quam oversaw the 25-member commission established by former Gov. Rudy Perpich. The commission completed an extensive study of the uninsured and underinsured and presented to the 1991 state Legislature a comprehensive plan to address the needs of those Minnesotans.

Places

Health Department Receives Grant to Help Cut Smoking

The National Cancer Institute has awarded a multi-year contract for $6.4 million to the Minnesota Department of Health as part of a seven-year effort to reduce smoking rates nationwide.

Minnesota is one of 17 states chosen to participate in the federal

ASSIST program (American Stop Smoking Intervention Study), which is part of a larger effort to reduce the death rate from cancer in the United States. The program's objective is a 43 percent reduction by 1998 in the percentage of adults who smoke.

The project will target populations that have made the least progress in quitting smoking, including young adult women, people of color, people in blue-collar jobs, and people without a college education.

Smoking is the state's leading cause of preventable death, claiming over 6,000 lives each year, said Marlene Marschall, Minnesota commissioner of health.

Preventing Preterm Birth

The Minnesota Department of Health, the Minnesota Medical Association, and the Minnesota Council of HMOs announced plans in October to develop a standardized risk-assessment form for use by all Minnesota physicians to aid in identifying pregnant women who are at increased risk of preterm birth.

Preterm birth is a leading cause of illness and death among newborns in the United States, accounting for more than 60 percent of all newborn deaths. Research shows that the presence of "risk factors" increases a woman's chance of bearing a low-birthweight infant. Such factors include smoking, age, race, drug abuse, low-income status, multiple births, heavy physical labor, psychological stress, and current pregnancy problems.

The standardized risk-assessment form will be developed by a committee chaired by Allan Chernov, M.D., vice president of medical affairs at Medica. The form is expected to be completed by January 1, 1992.

Riverside Meets HCFA Standards

After being cited this summer for deficiencies, Riverside Medical Center now complies with standards for infection control set by the federal Health Care Financing Administration (HCFA), the agency informed the hospital September 25.

The notification completes a four-month process that began when HCFA ordered an investigation of the hospital after it learned that AIDS-infected physician Philip Benson performed medical procedures at the hospital when he had sores on his hands and arms. After the investigation, HCFA informed the hospital it was "out of compliance" in infection control, citing lack of documentation and policies, and deficiencies in sanitation and storage. The hospital then submitted and implemented a plan of action to bring it into compliance. HCFA representatives visited the hospital again September 12 and determined that the problems had been corrected.

Medtronic Issues Alert

Medtronic, Inc., announced September 26 that it has issued a health safety alert recommending that physicians intensify monitoring and medical management of patients whose cardiac pacemaker systems include the Medtronic Model 4012 implantable pacing lead.

The Model 4012 lead was last manufactured in April 1990. Company officials noted that patient management information was being reiterated in letters to physicians at this time because many pacemakers connected to Model 4012 pacing leads will be replaced routinely during the next few years due to normal battery depletion. The replacement procedure affords an ideal time to evaluate the lead, they added.

Medtronic studies indicate that the conduction capabilities of some Model 4012 leads may not meet the company's expectations. However, indications of any such reduced performance usually are detectable in medical monitoring sessions that are routine for pacemaker patients.

MDH Discusses Midwives

The Minnesota Department of Health has formed an advisory group to look at the regulation of "traditional" midwives in Minnesota. Working closely with staff at MDH, the advisory group will consider whether traditional midwives should be regulated by the state, and what form the regulation should take. The group also will help MDH develop recommendations on the regulation of traditional midwives for the state Board of Medical Practice.

Certified nurse midwives—who are also registered nurses—are already regulated by the state Board of Nursing. They receive their certification as nurse midwives from the American College of Nurse Midwives after completing an approved training program.

Traditional (or "lay") midwives do not have to be trained or licensed as nurses. State law provides for the certification of traditional midwives by the Board of Medical Practice after they have completed a training course at a school approved by the board. However, there are currently no state rules that specify the training required or the process for certifying traditional midwives. There are currently no state-approved schools of midwifery.

The advisory group's first meeting was held October 3. All meetings are open to the public. For a schedule, call MDH at 612/623-5131.

Anyone wishing to comment on the possible regulation of lay midwives can submit a statement—orally or in writing—to Annette C. Spencer at the Health Department, 717 Delaware Street SE, Box 9441, Minneapolis, MN 55440; 612/623-5131.

Fairview Southdale in National Quality Assessment Project

Fairview Southdale Hospital is participating in a national project to test ways to assess quality of patient care. The hospital will test "performance measures" for the Joint Commission on Accreditation of Healthcare Organizations (JCAHO), which evaluates and accredits hospitals and other health care organizations throughout the United States.

"This is one step in JCAHO's changing the way it judges hospitals," said Paul Bowlin, M.D., director of medical affairs at Fairview Southdale Hospital. "It is very significant because it would move the accreditation from looking at the process that hospitals follow to outcomes or results of patient care."

The new process contemplates the use of both clinical and organizational performance data as measures of an organization's ability to deliver quality health care. Fairview Southdale will test proposed measures in obstetrics, anesthesia, oncology, trauma, cardiology, medication use, infection control, and home infusion therapy. The testing should be completed in two years.

Socioeconomics

Minnesota to be Single Medicare Payment Site

Because of overwhelming support by Minnesota physicians, the state will become a single payment site for Medicare reimbursement starting January 1. Rural physicians will then be reimbursed for Medicare at the same level as urban physicians. Minnesota is the second state in the nation—after Oklahoma—to change to a single district, said Gail Wilensky, administrator of the U.S. Health Care Financing Administration.

On average, Medicare fees for metropolitan doctors will decrease by about 3 percent, while fees for rural doctors will rise 4 percent in southern Minnesota and 3 percent in northern Minnesota.

Physicians throughout the state have supported the change as a means of promoting rural medical practice.

WIC Participation at All-time High

More mothers and children will soon be taking part in the state's WIC supplemental food program, according to officials at the Minnesota Department of Health. About 5,000 new participants are being added to the program, bringing statewide enrollment to a record high of 84,000. The expansion will allow WIC to serve most Minnesotans now on waiting lists.

WIC, the special supplemental food program for Women, Infants and Children, has been serving eligible participants in Minnesota since 1974. The program provides selected supplemental foods and other health-related services to mothers and children with special nutritional needs.

Eligible WIC participants include pregnant women, new mothers, infants, and children up to 5 years old. Each participant must be professionally evaluated and found to have special nutrition-related health needs. Participants must also be Minnesota residents and have incomes below established guidelines.

The Health Department administers WIC in Minnesota, and a statewide network of local WIC agencies provides services.

Minnesota's Uninsured Children

About 2,300 children were denied health care last year in Minnesota because they had no health insurance, according to the Children's Defense Fund of Minnesota. An estimated one-third of those children had serious or potentially serious illnesses, such as asthma, pneumonia, and kidney infections, said Luanne Nyberg, director of the organization.

About half of the children's parents have employer-sponsored health insurance that doesn't include dependents. Two-thirds said they could afford an extra $5 to $50 per month to insure their dependents, but most said they can't afford the average $270 per month for unsubsidized premiums.

More Teens with AIDS

AIDS is increasing among poor U.S. teenagers, according to two studies presented at a meeting of the American Society for Microbiology October 1.

Researchers from Children's Hospital in Washington, D.C., conducted a study that included blood samples drawn anonymously from 11,000 adolescents treated in the hospital's emergency room. The rate of AIDS infection was 1.3 percent compared with 0.4 percent in 1987.

A nationwide study by the Centers for Disease Control in Atlanta analyzed AIDS virus tests from 169,000 recruits for Job Corps, a program aimed at poor, underemployed young people usually between 16 and 21 years old. The rate of infection among female applicants had risen from 0.21 percent in 1988 to 0.41 percent in 1990. The infection rate for male applicants actually declined from 0.36 percent to 0.27 percent.

Law & Policy

Hennepin County Task Force Opposes Mandatory AIDS Testing

An AIDS task force unanimously advised the Hennepin County Board not to require AIDS testing of its health care workers, which include employees of the Hennepin County Medical Center and clinics it operates or finances. The task force included three county commissioners and several county health officials.

The task force also advised the board to 1) require employees who perform invasive procedures to inform the health service if they know they are infected, 2) to train employees on methods to prevent transmission, and 3) to inform patients how the county is working to protect them.

The board's final decision could set a precedent when the issue comes before the state Legislature.

Congress Approves AIDS Bill

The House and Senate sent a bill to President Bush October 3 that requires states to adopt federal guidelines for deterring the spread of AIDS from health care workers to patients. Congress discarded an earlier plan passed by the Senate to set prison sentences for AIDS-infected doctors, dentists, and nurses who perform invasive procedures without disclosing the infection.

The new bill allows each state to adopt CDC guidelines or to set different rules for determining when health care workers should be tested, whether they must disclose infection, and whether they can continue practicing. Under the bill, state public health chiefs would have to certify to the secretary of Health and Human Services that the state has adopted guidelines.

Innovations

Abbott Performs Laparoscopic Bowel Surgery

A physician at Abbott Northwestern Hospital in Minneapolis has performed bowel resection and reanastamosis through a laparoscope, a method that has only been used at a small number of medical centers in the country, according to Joseph Pietrafitta, M.D., who performed the first two surgeries at Abbott.

Two Abbott patients have had the laparoscopic surgery, which involves operating through three small holes in the abdominal wall instead of through a midline incision.

Working through a small scope that is inserted into the patient's abdomen and two additional small holes less than a half inch in length for inserting instruments, Pietrafitta removed a portion of the first patient's colon and reconnected the ends. Four days after the procedure, the patient was well enough to leave the hospital, and his postoperative pain was minimal.

The second patient had laparoscopic surgery to make a double colostomy for injuries suffered in a traffic accident. The patient is now at home recovering from the injuries.

"There's less handling of the intestines, and less trauma to the patient in general. It's a big operation done in a small way," said Pietrafitta.

Laser Treatment for Tachycardia

In a new procedure less invasive than open heart surgery, physicians used a laser catheter to treat ventricular tachycardia, a potentially fatal rapid heartbeat. Minneapolis-based Angeion Corp. developed the laser catheter and apical probe mapping technology used in the procedure.

The surgery involves opening the patient's chest and making a small hole in the ventricle of the heart. Angeion's new device, known as an apical probe, is inserted into the heart to identify the cells causing the rapid heartbeat. Once these cells are identified, Angeion's laser catheter is attached to the wall of the heart. Short bursts of laser energy are fired to neutralize the cells causing the rapid heartbeat.

The surgery was performed in September at the Carolinas Medical Center in Charlotte, North Carolina, under direction of Robert H. Svenson, M.D., principal investigator for Angeion's tachycardia clinical trials.

Each year, more than 400,000 adults in the United States die from ventricular tachycardia, which is one of the most common causes of death for adults between the ages of 30 and 65.

Experimental Drug Aids Memory

An experimental drug called milacemide can improve memory in healthy people, scientists reported in the October issue of *Neurology*. The researchers found that the drug aided volunteers in recalling familiar words from memory. However, they warned that the drug is not a cure for memory loss, but is a steppingstone that may lead to improved memory drugs. Milacemide is ineffective and possibly dangerous when taken over a long period by people with chronic illnesses such as Alzheimer's disease, they said.

The effort to find a cure for memory loss has increased as the population has grown older. About three-fourths of elderly people suffer from memory problems.

Drug for Chronic Fatigue

Researchers have developed an experimental anti-virus drug called Ampligen that can relieve the exhaustion, memory loss, and other symptoms of chronic fatigue. Researchers tested the drug on people so bedridden they were unable to watch TV or get to the bathroom. The drug gave subjects enough strength to get through the day and think more clearly, although many still showed effects of the disease, reported researchers at an American Society for Microbiology meeting October 1. The researchers are unsure whether Ampligen's benefits last when treatment is stopped or whether the drug causes any dangerous side effects.

Research also pointed to a possible cause of chronic fatigue. The subjects had elevated levels of interleukin-1, an immune system chemical that causes the body to produce antibodies to fight infection. The researchers believe the body may produce dangerously high levels of interleukin-1 to fight infection, and they suggested that this natural chemical may cause chronic fatigue.

Medical Research

Vitamin D Might Reverse Bone Loss

Vitamin D in multivitamins can reverse the bone loss that leads to hip fractures in many older women, according to scientists at the U.S. Department of Agriculture's Human Nutrition Center on Aging. The study, which was reported in the *Annals of Internal Medicine*, could lead to improved treatment for osteoporosis, said the scientists. Women living in northern climates are especially prone to losing bone density in the winter.

Body Shape Reveals Cancer Risk

A woman's body shape may reveal her risk of breast and endometrial cancer, according to a study published in the October 2 *Journal of the American Medical Association.* Researchers report that women shaped like an apple (heavier at and above the waist) are 15 times more likely to develop endometrial cancer than women who are shaped like pears (carry more weight on their thighs and hips). Similar findings about breast cancer were published in the February 1 *Annals of Internal Medicine.*

One researcher stressed that risk is related to where the fat is on the body, so even thin women can be at risk. Researchers found that apple-shaped women can reduce their risk of developing cancer by losing weight since most women lose weight in the upper body first.

Gene Mutation Linked to Alzheimer's

By studying three successive generations of a family with Alzheimer's disease, researchers found a gene mutation that may be responsible for the nerve-cell death and dementia characteristic of one form of Alzheimer's disease. Nine months ago researchers in London found another defect located on the same spot on the same gene that also causes Alzheimer's.

The researchers, supported by the National Institute on Aging, identified a single alteration in the gene that directs synthesis of a common brain protein called amyloid precursor protein, which they believe could trigger the disease, according to a report in the October 4 issue of *Science.*

The discovery provides a new clue in unraveling the complex pathology of Alzheimer's disease, said Zaven Khachaturian, Ph.D., associate director of the Neuroscience and Neuropsychology of Aging Program at NIA. "Discovering that the family members with the altered gene have Alzheimer's disease and those with the unchanged gene do not, confirms our suspicions about hereditary Alzheimer's," he said. **MM**

Nearly half of all heart attack victims are born under this sign.

Heart attack is by far the biggest killer of American women, claiming nearly 250,000 lives each year. But there is hope. Thanks to AHA-supported research and educational efforts, millions of women have learned how to reduce their risk. And you can, too, by calling or writing your nearest American Heart Association.

American Heart Association

This space provided as a public service.

UM UNIVERSITY OF MINNESOTA

Physician Position

Boynton Health Service, a multi-specialty outpatient facility affiliated with University of Minnesota Hospital and Clinic, is seeking two primary-care physicians. Join our 18 general practitioners and specialists in serving a diverse population including 50,000 students, 3,700 international students, faculty from over 100 countries, and the University's staff. Inhouse laboratory, x-ray, pharmacy, and inhouse surgical consultation available.

These academic professional appointments requires an M.D./D.O. degree, BC.BE in primary-care specialty, and Minnesota licensure. Must have a broad range of medical abilities and relate well with an educated, health-conscious clientele.

Excellent salary commensurate with training and experience. Work schedule involves limited inpatient care beginning in 1992. A four-day work week is negotiable. Outstanding benefits include a generous academic-status retirement program (University contributes 13%); paid professional liability insurance; health, dental, and disability coverage; and CME and teaching opportunities.

Position available as soon as possible, but no later than February 1, 1992. Please send resume and three letters of reference by December 1, 1991, to:

BHS
Boynton Health Service
Attn: Donald Severson, M.D., Chair, Physician Search Committee
410 Church St. SE
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CALENDAR OF MEDICAL EVENTS

November 1, 1991

UPPER MIDWEST SLEEP SOCIETY MEETING

A review of new advances in the diagnosis and treatment of sleep disorders

Chairman
Milton Ettinger, M.D.
St. Paul Hotel
St. Paul, MN

November 7-8, 1991

MEDICAL INTENSIVE CARE CONFERENCE

A practical approach to common issues involved in the care of the critically ill patient

Chairman
James Leatherman, M.D.
Hennepin County Medical Center
Minneapolis, MN

December 5, 1991

MEDICAL FUTILITY: A HOSTAGE TO TECHNOLOGY?

Explore medical futility from a variety of perspectives: clinical, ethical and economic. Examine the impact of technology, resource allocation and the legal system on your practice

Chairman
Steven Miles, M.D.
Hennepin County Medical Center
Minneapolis, MN

For further information, contact the Office of Academic Affairs
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A Calendar of Continuing Medical Education Courses

Provided through the MMA Medical Education Subcommittee on CME Resources. For assistance with scheduling meetings or for information on future medical meetings and CME courses at the state and national level, please contact the MMA office: 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414; 612/378-1875. Information for each entry is arranged by date; name of program; primary sponsor; location; contact person.

NOVEMBER 1991

Nov. 4-8 **Team Management of Diabetes Mellitus** International Diabetes Center; International Diabetes Center, Minneapolis, MN. CONTACT: Cindy Poppitz, International Diabetes Center, 5000 West 39th Street, Minneapolis, MN 55416; 612/927-3393.

Nov. 7 **Reproductive Toxicology** Group Health Inc.; Minneapolis Metrodome Hilton, Minneapolis, MN. CONTACT: Debbie Bladine, Group Health Inc., 2829 University Avenue SE, Minneapolis, MN 55414; 612/623-8479.

Nov. 7-8 **Medical Intensive Care Conference** HCMC and Hennepin Faculty Associates; Hennepin County Medical Center, Minneapolis, MN. CONTACT: Office of Academic Affairs, 701 Park Avenue, Mailcode 865, Minneapolis, MN 55415; 612/347-2075.

Nov. 8 **Pediatric Orthopedics/Rheumatology for the Primary Care Practitioner** Minneapolis Children's Medical Center; Massie Moos Auditorium Education Building, Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Kathy Ingerson, Minneapolis Children's Medical Center, 2525 Chicago Avenue South, Minneapolis, MN 55404; 612/863-5884.

Nov. 8 **E.T. Bell Fall Pathology Symposium** Office of CME, University of Minnesota Medical School; Radisson Hotel Metrodome, Minneapolis, MN. CONTACT: Registrar, Office of CME, Radisson Hotel Metrodome, Suite 107, 615 Washington Avenue SE, Minneapolis, MN 55414; 612/626-7600.

Nov. 8-9 **Symposium on Sports Medicine** Mayo Clinic/Mayo Foundation; Mayo Clinic, Rochester, MN. CONTACT: Rita Kunz or Jan Fleck, Mayo Clinic, 200 1st Street SW, Rochester, MN 55905; 507/284-2509 or 800/323-2688.

Nov. 9 **Third Annual Health One Oncology Conference** Health One; Marriott City Center Hotel, Minneapolis, MN. CONTACT: Sue Hance, Health One CME, 2810 57th Avenue North, Minneapolis, MN 55430; 612/574-7895 or 800/347-3627.

Nov. 12 **Bloodborne Pathogen Exposure in the Workplace** Midwest Center for Occupational Health & Safety; Holiday Inn East, St. Paul, MN. CONTACT: Registrar, Continuing Education, Midwest Center for Occupational Health & Safety, 640 Jackson Street, St. Paul, MN 55101; 612/221-3992.

Nov. 14 **Diabetes Management—New Technology** Group Health Inc.; Minneapolis Metrodome Hilton, Minneapolis, MN. CONTACT: Debbie Bladine, Group Health Inc., 2829 University Avenue SE, Minneapolis, MN 55414; 612/623-8479.

Nov. 14-16 **Annual Primary Care Medicine Conference** St. Paul-Ramsey Medical Center; Holiday Inn East, St. Paul, MN. CONTACT: Bonnie Young, 640 Jackson Street, St. Paul, MN 55101; 612/221-3992.

Nov. 14-16 **Nutrition and Diabetes—From Theory to Practice** International Diabetes Center; International Diabetes Center, Minneapolis, MN. CONTACT: Cindy Poppitz or Arlene Monk, R.D., International Diabetes Center, 5000 West 39th Street, Minneapolis, MN 55416; 612/927-3393.

Nov. 15-16 **Advanced Laparoscopic Abdominal Surgery Seminar** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, CME Office 14202, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

Nov. 15-16 **Sexual Attitude Reassessment Seminars (SAR)** Program in Human Sexuality; Holiday Inn Metrodome, Minneapolis, MN. CONTACT: SAR Coordinator or Secretary, Program in Human Sexuality, FMC Building, 1300 South Second Street, Minneapolis, MN 55454; 612/625-1500.

Nov. 18-22 **Team Management of Diabetes Mellitus** International Diabetes Center; International Diabetes Center, Minneapolis, MN. CONTACT: Cindy Poppitz, International Diabetes Center, 5000 West 39th Street, Minneapolis, MN 55416; 612/927-3393.

Nov. 19 **Pre-Hospital Advanced Burn Life Support** St. Paul-Ramsey Medical Center; Holiday Inn East, St. Paul, MN. CONTACT: Bonnie Young, 640 Jackson Street, St. Paul, MN 55101; 612/221-3992.

Nov. 20 **Pre-Hospital Advanced Burn Life Support** St. Paul-Ramsey Medical Center; Holiday Inn East, St. Paul, MN. CONTACT: Bonnie Young, 640 Jackson Street, St. Paul, MN 55101; 612/221-3992.

Nov. 21 **Seventh Ramsey Trauma Conference** St. Paul-Ramsey Medical Center; Holiday Inn East, St. Paul, MN. CONTACT: Bonnie Young, 640 Jackson Street, St. Paul, MN 55101; 612/221-3992.

Nov. 22-23 **Lasers in Orthopedic Surgery** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, MN. CONTACT: Cathy Kohn, CME Office 14202, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

Health One Medical Education

November 9
THIRD ANNUAL ONCOLOGY CONFERENCE
Marriott City Center, Minneapolis
8:00 a.m. - 4:00 p.m.

November 14
BLOCKERS
Presented by Paul Olson, MD
12:30 p.m, Sioux Valley Hospital
New Ulm, MN

November 19
EPILEPSY-SURGICAL INTERVENTION
Presented by John Gates, MD
12:00 - 1:00 p.m.
(Via Educational Telephone Network)

December 3
EVALUATION OF PATIENTS FOR COSMETIC SURGERY
Presented by Peter Vogt, MD
12:00 - 1:00 p.m.
(Via Educational Telephone Network)

For further information contact the Office of Continuing Medical Education, Health One (612) 574-7895 or call toll-free 1-800-343-3627

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Nov. 22-23 **Primary Care Update** Methodist Hospital staff physicians and Park Nicollet Medical Foundation; Radisson Hotel conference center, Plymouth, MN. CONTACT: Elaine Anderson, Park Nicollet Medical Center, 612/927-3703; or Janet Stalpes, Methodist Hospital, Medical Staff Office, PO Box 650, Minneapolis, MN 55440; 612/932-5135.

Nov. 23 **Minimally Invasive Laparoscopic Surgery** Abbott Northwestern Hospital; Marriott City Center, Minneapolis, MN. CONTACT: Cathy Kohn, CME Office 14202, Abbott NW Hospital, 800 East 28th Street, Minneapolis, MN 55407; 612/863-5461.

DECEMBER 1991

Dec. 5 **Tumor Markers and Screening** Group Health Inc.; Minneapolis Metrodome Hilton, Minneapolis, MN. CONTACT: Debbie Bladine, Group Health Inc., 2829 University Avenue SE, Minneapolis, MN 55414; 612/623-8479.

Dec. 5-7 **Annual Cardiopulmonary Medicine Update** St. Paul-Ramsey Medical Center; Holiday Inn East, St. Paul, MN. CONTACT: Bonnie Young, 640 Jackson Street, St. Paul, MN 55101; 612/221-3992.

Dec. 7 **Controversies in Cardiology** HealthEast; Scheffer Center, St. Joseph's Hospital, St. Paul, MN. CONTACT: Lisa Harrell, 1700 University Avenue, St. Paul, MN 55104; 612/641-5112.

JANUARY 1992

Jan. 11 **Teen Program Seminar (Pediatric and Mental Health Topics)** Group Health Inc.; Minneapolis Metrodome Hilton, Minneapolis, MN. CONTACT: Debbie Bladine, Group Health Inc., 2829 University Avenue SE, Minneapolis, MN 55414; 612/623-8479.

Jan. 16 **Promoting Fitness** Group Health Inc.; Minneapolis Metrodome Hilton, Minneapolis, MN. CONTACT: Debbie Bladine, Group Health Inc., 2829 University Avenue SE, Minneapolis, MN 55414; 612/623-8479.

Jan. 16-31 **South Pacific Medical Education Seminar** INTRAV, North Central Medical Conference; Fiji, New Zealand, Australia, Great Barrier Reef. CONTACT: North Central Medical Conference, 1845 Hampshire Avenue #200, St. Paul, MN 55116.

Jan. 18 **Rehabilitation** Group Health Inc.; Minneapolis Metrodome Hilton, Minneapolis, MN. CONTACT: Debbie Bladine, Group Health Inc., 2829 University Avenue SE, Minneapolis, MN 55414; 612/623-8479.

Jan. 25-Feb. 4 **Trans-Panama Canal Medical Education Seminar** INTRAV, North Central Medical Conference; Acapulco, Costa Rica, Curacao, St. Croix, St. Thomas, and San Juan. CONTACT: North Central Medical Conference, 1845 Hampshire Avenue #200, St. Paul, MN 55116.

FEBRUARY 1992

Feb. 5-12 **HealthEast Winter Medical Seminar** HealthEast; Hawaii. CONTACT: Lisa Harrell, 1700 University Avenue, St. Paul, MN 55104; 612/641-5112.

Feb. 6 **Kidney Stones—Treatment, Prevention** Group Health Inc.; Minneapolis Metrodome Hilton, Minneapolis, MN. CONTACT: Debbie Bladine, Group Health Inc., 2829 University Avenue SE, Minneapolis, MN 55414; 612/623-8479.

Feb. 6-9 **Prostatic Diseases: Current Concepts in Diagnosis and Management** Mayo Clinic/Mayo Foundation; The Breakers, Palm Beach, FL. CONTACT: Rita Kunz or Jan Fleck, Mayo Clinic, 200 1st Street SW, Rochester, MN 55905; 507/284-2509 or 800/323-2688.

Feb. 7 **Domestic Violence: Assessment and Plan for Physician Action** St. Paul-Ramsey Medical Center; Holiday Inn East, St. Paul, MN. CONTACT: Bonnie Young, 640 Jackson Street, St. Paul, MN 55101; 612/221-3992.

Feb. 14 **Burn Care Today** St. Paul-Ramsey Medical Center; Holiday Inn East, St. Paul, MN. CONTACT: Bonnie Young, 640 Jackson Street, St. Paul, MN 55101; 612/221-3992.

Feb. 15-22 **HealthEast Winter Medical Seminar** HealthEast; Steamboat Springs, CO. CONTACT: Lisa Harrell, 1700 University Avenue, St. Paul, MN 55104; 612/641-5112.

Feb. 20 **Newer Antibiotics in Our Basic Armamentarium** Group Health Inc.; Minneapolis Metrodome Hilton, Minneapolis, MN. CONTACT: Debbie Bladine, Group Health Inc., 2829 University Avenue SE, Minneapolis, MN 55414; 612/623-8479.

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1991	
November 14-16	Primary Care Medicine, St. Paul
November 19	Pre-hospital Advanced Burn Life Support, St. Paul
November 20	Pre-hospital Advanced Burn Life Support, St. Paul
November 21-22	Annual Trauma Conference, St. Paul
December 5-7	Cardiopulmonary Medicine, St. Paul
1992	
February 7	Domestic Violence, A Focus on Adult Women, St. Paul
February 14	Burn Care Today, St. Paul
March 12-13	Family Medicine Update, St. Paul
March 20	Occupational Medicine Update, St. Paul
March 26-27	Critical Care: Practical Approaches & Case Discussions, St. Paul
April 2-3	OB/Gyn Update, St. Paul
April 3	ENT Update for Primary Care Physicians, St. Paul

Information and Registration

Continuing Medical Education, St. Paul-Ramsey Medical Center,
640 Jackson Street, St. Paul, MN 55101; Phone 612/221-3992.

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Internist to join a progressive 13-physician group practice. Rural college town 30 miles from St. Paul, Minnesota. New clinic and constructing new hospital. Contact: Robert B. Johnson, M.D., River Falls, WI 54022; 715/425-6701. (*9/91-R)

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Forest Lake Doctor's Clinic is seeking a BC/BE family physician, pediatrician, ob/gyn, and internist to join 10-physician multispecialty group. Located 25 miles north of Minneapolis-St. Paul in progressive community with excellent schools, many beautiful lakes, recreational activities, golf, fishing, boating, skiing. Local hospital directly across street. Contact: Dr. Harvey J. Frank or Dr. Doug Sill, 121 SE 11th Avenue, Forest Lake, MN 55025; 612/464-7100. (4/90-R)

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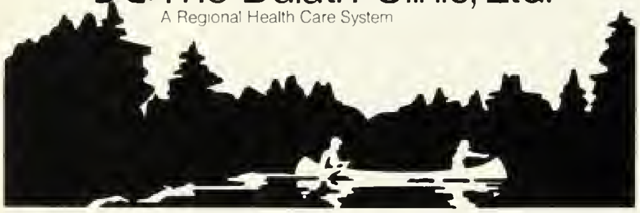

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Physician: BC in emergency medicine, experienced in FP (no ob), and licensed in Minnesota, South Dakota, Wisconsin, available for locum tenens coverage. Reply to: Minnesota Medicine (850), 2221 University Avenue SE, Suite 400, Minneapolis, MN 55414. (5/91-R)

Internal Medicine, Pediatrics, and Dermatology practice opportunities available at the Faribault Clinic. The Faribault Clinic is a multispecialty group practice of 19 physicians. Faribault is located 50 miles south of Minneapolis on I-35.

For more information contact: Ray W. Wood, M.D., or Ken Smith, Administrator, 924 NE First Street, Faribault, MN 55021; 507/334-3921. (4/90-R)

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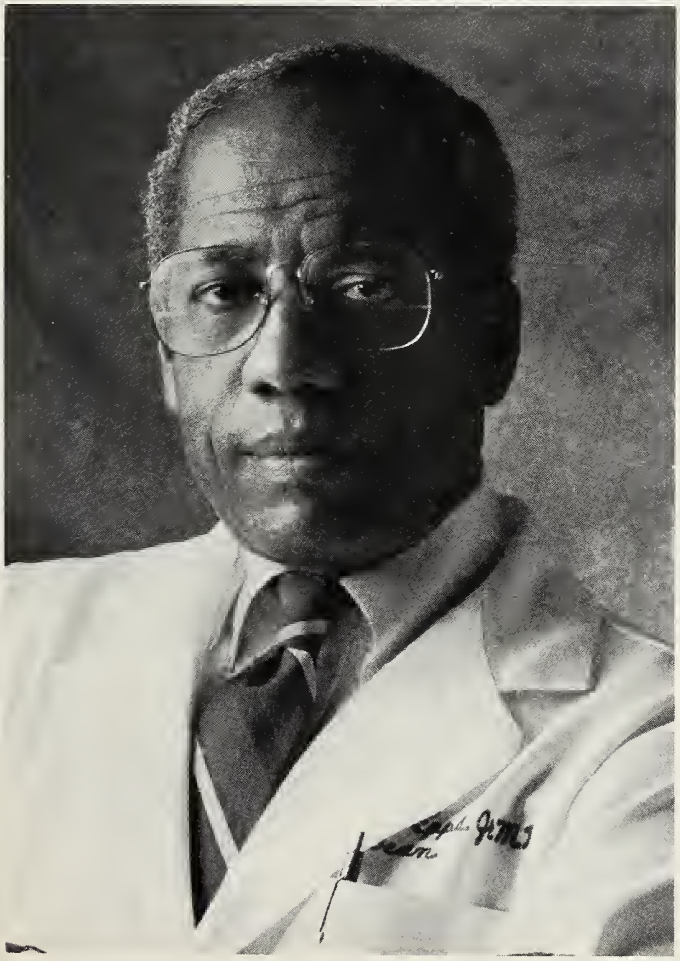

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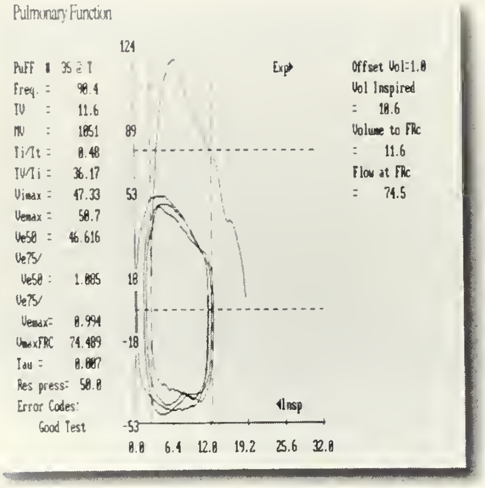
DECEMBER 1991



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Freq. =      90.4
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 Vemax=     0.994
VmaxFRC    74.489
Tau =       0.007
Res press=  50.0
Error Codes:
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Offset Vol=1.0
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Minnesota Medicine

A JOURNAL OF CLINICAL AND HEALTH AFFAIRS

DECEMBER 1991 VOLUME 74 NUMBER 12

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COVER

The Closing of Metropolitan-Mount Sinai Medical Center affected hundreds of lives, yet it seemed to go unnoticed by the community. We ask (page 17) whether a numbness has built up toward structural changes in health care. Bidding goodbye to M-MSMC and its 120-year heritage was difficult, but the transition successful—most programs continue at different locations and almost all employees are working.

The Swedish Hospital (1898 photo) is one of M-MSMC's parent hospitals. Photo compliments of the Metropolitan-Mount Sinai Historical Library.

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Stunning Advances and Staggering Challenges in Pediatrics

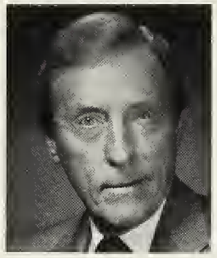
Edmund C. Burke, M.D.

Pediatric research and development in recent years has been dazzling. Technological advances are staggering to my generation of pediatricians.

But despite advances, problems still exist and are proliferating, namely, violence, crime, and substance abuse. These are not the typical issues we think of in pediatrics, but, as Stephen Joseph discusses in this month's Face to Face interview (page 9), they are social ills that lead to increases in pediatric morbidity and mortality. The leading causes of death among black male adolescents were homicide and suicide in 1990. The crack epidemic has caused an increase in "crack babies" as well as child abuse and child homicide rates. Joseph labels these problems "new morbidities."

Substance abuse deserves urgent attention. According to the Centers for Disease Control, birth defects are now the leading cause of infant mortality. Prenatal alcohol and drug exposure are at least partly to blame. Fetal alcohol syndrome and alcohol-related birth defects are the main causes of mental retardation in the United States, according to this month's special report (page 23), which discusses the prevalence and consequences of these tragic yet totally preventable defects. Because no one knows the threshold of safe alcohol consumption during pregnancy, the authors reiterate advice that pregnant women abstain from drinking alcohol.

Speakers at the American Academy of Pediatrics' annual meeting challenged all who deal with children to take a strong advocacy role in attacking the social ills that affect child health. In addition to the problems already mentioned, speakers cited child sexual abuse, inadequate parenting, and family violence.



"Despite advances, problems still exist and are proliferating."

Unfortunately, the list goes on—infant mortality rates remain high and immunization rates remain low, for example. Several factors contribute, but the most obvious is poverty, which prevents many parents from seeking health care for their children. Fortunately, Minnesota has programs such as the Children's Health Plan, which guarantees coverage of preventive health care for children age 18 and under, but we must work for more comprehensive solutions for our state as well as our nation.

Despite the discouraging picture, progress is evident on many fronts, especially in clinical pediatrics. This month's Clinical and Health Affairs article (page 27) discusses the remarkable changes that have occurred in pediatric cardiology. New techniques have led to fewer invasive procedures, shorter hospital stays, and improved outcomes. Cardiac abnormalities can often be diagnosed with echocardiography alone, and some diagnoses can be made before a child is even born. In addition, cardiac transplantation is available for children who cannot be treated through other means.

I have attended several pediatric meetings in the past months and have been encouraged by progress reports in many areas. Also at the American Academy of Pediatrics' annual meeting, President Antoinette Parisi Eaton, M.D., offered promising news on the academy's efforts to establish a national child health policy. While the AAP is far from accomplishing its agenda, it has been successful in prompting legislation to address the needs of children and pregnant women. Rep. Robert Matsui, D-Calif., introduced a bill in September that calls for guaranteed access to health care for all children and pregnant women, establishes a one-class system of health care where all children receive the same benefits, and replaces Medicaid with state-funded private insurance.

We can be proud that Minnesota has led health care access reform initiatives both statewide and nationally. Most recently, Gov. Arne Carlson proposed a program that would initially try to enroll Minnesota's 70,000 uninsured children. Carlson and state legislators will begin working on a compromise health care access bill in 1992. Meanwhile, Minnesota Sen. David Durenberger has called for national health care reform and has prepared legislation that would increase access to care. The process of change is slow and cumbersome, but each little step offers hope for improvement.

Let's be happy with our progress yet continue to push for reform. Satisfaction is a thing of the past. To achieve progress, we must act as advocates, attacking the social ills affecting child health, pushing for better access to health care, and promoting healthier lifestyles. MM

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I am a recently retired obstetrician-gynecologist who spent eight weeks as a visiting professor in our sister city of Novosibirsk in the U.S.S.R. in the fall of 1989. From firsthand experience working there, I learned of the deplorable conditions of the Soviet health care system.

I have contacted local hospitals and HMOs asking them to donate used surgical instruments, equipment, and supplies to our colleagues and to the hospitals of Novosibirsk. All material will be donated to the Charitable Foundation of the Hennepin County Medical Society. I have made arrangements to have the material transported to the U.S.S.R.

Any physician interested in donating surgical instruments (just small materials) should contact me at 612/370-1513. I can arrange to have the donated items picked up and sent to the Soviet Union.

We have so much. The Soviets have so little. They desperately need our help.

Fred A. Lyon, M.D., F.A.C.O.G.
1235 Yale Place, #202
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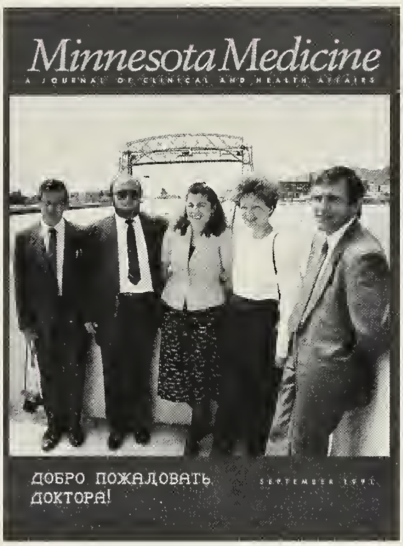
Teenage Pregnancy and Infant Mortality

I just finished reading with great interest the interview, "Looking Out for Minnesota Moms and Their Babies" in the September 1991 issue of *Minnesota Medicine*. Dr. Carolyn McKay is certainly right on target when she identifies preconceptual nutrition and avoidance of drugs and alcohol as key to ensuring a low infant mortality rate. As an officer of the state, however, how can she help but be aware that the reason why Minnesota's infant mortality is higher than other industrial nations', i.e, Scandinavia, Holland, and Belgium, is largely because of the risks associated with teenage pregnancy, especially in the inner city.


Minnesota Medicine
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SEPTEMBER 1991

Absent from the article is the fact that both Hennepin and Ramsey county hospitals have begun to refuse hospital and/or outpatient care facilities to these very teenage, indigent patients for whom the risk is many times higher than for other potential moms in the state. For whatever reasons, our friends at the county hospitals are refusing to take AFDC/PHP patients, and the effect is to deny them the centralized care that has traditionally been available in the inner city. It is my personal opinion that this issue, which is no more than six to eight months old, is the most important one facing obstetrics and perinatology in Minnesota. I hope a concerted effort on the part of all concerned can be successful.

Alec L. Janes, M.D.
Obstetrics, Gynecology and
Infertiltiy, P.A.
Minneapolis, Minnesota

In Response

As a former officeholder in a state agency, I am very aware of adolescent pregnancy. Infants born to adolescents do have a higher risk of dying than those born to older women. However, Minnesota consistently has one of the lowest adolescent pregnancy rates in the United States. Because the rate of adolescent births is comparatively small, even eliminating such births from Minnesota's infant mortality calculations does not dramatically change the outcome. Numerically, white married women over age 20 have the most babies in Minnesota —and also the most infant deaths.

Nonetheless, any program that strives to benefit infants must provide service to mothers of all ages and races. The Hennepin and Ramsey county medical centers have not been the decision makers about managed care options for AFDC recipients. Those decision makers do need your opinion about adequate models of care for special populations.

Carolyn McKay, M.D.
President, Minnesota Chapter
American Academy of Pediatrics
and Former Director,
Maternal and Child Health
Minnesota Department of Health

Lung Association Program Helps Families Manage Asthma

Asthma affects more than 10 million people in the United States, 3 million of whom are under age 18. Because these numbers are rising, physicians are continuously challenged with families' needs.

Asthma often becomes a quality-of-life issue and can drain a family financially and emotionally, even if it does not kill. Surveys from the families who have been educated and trained through the American Lung Association of Ramsey County have shown improvement in the families' confidence and ability to cope with this breath-stealing disease. Parents also learn co-management techniques and ways to work with their child's school or day care to manage the asthma.

As the National Heart, Lung and Blood Institute reports in its new asthma guidelines, "There are four integral components of asthma therapy: patient education, environmental control measures to avoid allergens, pharmacological therapy, and use of objective measures to assess asthma severity and monitor treatment." The American Lung Association targets the first two recommendations through its educational offerings: Preschool Family Asthma classes for children aged 2 to 4; Open Airways Family Asthma classes for children aged 5 to 14; Camp Superkids for kids with asthma; Super Asthma Saturday, a half-day workshop for children with asthma, their parents, and their care givers; and pulmonary rehabilitation classes for adults. All the programs incorporate joint management with the family's doctor.

I encourage all physicians to direct their asthma patients to the American Lung Association of Ramsey County. Although we can never replace medical care, we do provide skills in crisis management, breathing, relaxation, and lung control, all of which serve as important supplements to co-management.

Susan Berse
Director, Public Relations and Special Events
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Battling New Morbidities in Children

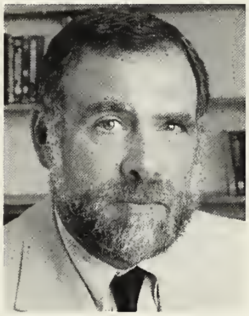
Minnesota Medicine interviews Stephen C. Joseph, M.D., M.P.H.

Years ago, acute infectious diseases were the toughest problems facing pediatrics, but times are changing. We are now better armed to fight infections, but new, more difficult problems have arisen. Dr. Robert Haggerty, years ago, coined the term "new morbidities" to define these problems. Socially mediated diseases, such as substance abuse, physical abuse, and other violent injuries, are now the biggest obstacles facing pediatrics in this country. In 1990, the leading causes of death among black male adolescents nationwide were homicide and suicide.

Dr. Joseph, who is a pediatrician and former commissioner of health for New York City, was recently appointed dean of the University of Minnesota's School of Public Health. In this month's interview, he points out that both the old problems and the new morbidities disproportionately affect poor children. The crack epidemic, for example, is most devastating among poor, inner-city folk. While drug abuse may be declining among the middle class, it remains a severe problem among the poor. Dr. Joseph points out that the epidemic has led to increased rates of sexually transmitted disease, child abuse and neglect, and more "crack babies." The first wave of these children is now entering the public school system in places like New York City and is beginning to overwhelm educational resources in inner-city schools.

And what has happened to the old morbidities? They remain problems, says Dr. Joseph, although new diseases have entered the picture. HIV, now a significant cause of morbidity, also hits poor children in disproportionate numbers. The rate of infants born with HIV infection is increasing and is a serious problem in some of our nation's cities.

In an effort to ameliorate these and other public health problems, Dr. Joseph says he plans to strengthen ties between the School of Public Health and practitioners in the field. He believes Minnesota has a strong history of progressive public health and is an especially good place to work toward solutions.



Stephen C. Joseph, M.D.

> "It is probably most pertinent to look at risks of morbidity and mortality along the ancient vector of poverty."

Minnesota Medicine: Dr. Joseph, you've had a remarkable career. You've served in the Peace Corps in Nepal; you've lived in Washington, D.C., West Central Africa, and Newfoundland. Most recently, you were commissioner of health in New York City. Tell us a little more about your background.

Joseph: I started out thinking I wanted to be an academic infectious disease pediatrician. Then, during the '60s, I joined the Peace Corps. The experience of practicing medicine and seeing health issues in a very poor country changed my views on many things. It made me feel unsure about the relationship between clinical medicine and public health and about what really are the determinants of health and illness. I spent the next 25 years alternating between a clinical view of medicine and a public health or a community perspective of medicine. I think that's one reason why I've moved around so much and practiced in odd corners of the world.

Old and New Morbidities

Minnesota Medicine: Dr. Joseph, I realize that your position as dean of the University of Minnesota School of Public Health is largely educational, but after listening to your presentation to the Northwestern Pediatric Society this fall, I think you can provide a lot of input for managing some very distressing problems. Tell us about what you call the "new morbidities and the old problems."

Joseph: The phrase "new morbidity" is not original. Bob Haggerty, now president of the Grant Foundation, coined it in the '80s to refer to the change in pediatric epidemiology away from classical acute infectious disease—septic hips, hot mastoids, and the raging pneumonias—toward more chronic, socially mediated, environmentally influenced conditions. It is a very important concept because it reflects reality in most U.S. pediatric settings. It is probably most pertinent to look at risks of morbidity and mortality along the ancient vector of poverty. Both the old morbidities—pneumonias, diarrheas, chronic otitis—and the new morbidities—accidents, violence, and behavioral problems based on social chaos and discord—affect poor kids to a higher degree than they do middle-class kids. Of course, there still are tremendous infectious disease problems in pediatrics. One example is the human immunodeficiency virus, which in youngsters is overwhelmingly a disease of poor minorities in this country. Asthma and pneumonias also disproportionately affect this group. But new morbidities also disproportionately hit poor kids and poor communities. Our real unfinished business in children's health is to focus on these disadvantaged kids—to make a concerted effort to provide them with what they need.

Minnesota Medicine: In your presentation, you said we're entering an era of newer morbidity where the environment and toxic effects cause fetal damage. Would you comment on that?

Joseph: Prenatal toxic agents pose a tremendous problem. The two examples I gave in my talk were infants damaged by maternal cocaine addiction—and that's a lot of kids—and fetal alcohol syndrome infants. Both have behaviorally mediated diseases, but the behavior is in the previous generation. Unlike a person who gets lung cancer because he or she smokes, these children are bearing the consequences of someone else's behavior. This presents many dilemmas. For example, a short while ago in California, a district attorney wanted to lock up a pregnant cocaine addict. What should we do about women who are cocaine addicts and are pregnant or want to become pregnant? We've learned so much in the last 25 years about protecting children from physical and sexual abuse, and about protecting the doctors and other professionals who report the abuse. But we haven't yet determined our responsibility for protecting the fetus of an alcoholic mother. What is an alcoholic in that sense? Should we *prohibit* alcohol consumption by pregnant women?

It also worries me that people will brand these kids in the same way earlier generations branded people with tuberculosis or cancer as somehow morally unworthy. My concern is that society will give up on these kids and say the problems were created by somebody else's behavior and, therefore, are not society's responsibility.

> "Both the old morbidities and the new morbidities affect poor kids to a higher degree than they do middle-class kids."

Minnesota Medicine: How about "the old morbidities"?

Joseph: I think the future of pediatrics will involve learning more and more about the interaction between infection and chronic disease. Whether we look at HIV, diabetes, multiple sclerosis, or chronic neurological damage, we are beginning to see evidence that a good deal of chronic disease is related to or has co-factors to infections. You can bet that we'll find once again that poverty is a leading associated factor as well. Do you recall the old studies about measles transmission and mortality in Glasgow? They found that both were directly correlated with the number of people living in a room. That old stuff is still with us, although it changes form from time to time. We have an enormous gap in this country between quality of life and availability of health care for poor children as compared with middle-class children. We have to put more effort into special programs for the kids in the gap.

Focusing Effort on the Poor

Minnesota Medicine: Dr. Joseph, during your talk, you indicated that you have nothing against universal health care but said you think it's not exactly the right focus for solving the morbidity problem. What do you mean by this?

Joseph: I'm certainly not trying to say that universal health care and universal access are unimportant. We desperately need universal access to health care, but my point, which is a somewhat unpopular one, is that we really need to provide services and programs aimed at the people who most need them. You might say that what we need is a better two-track system even more than we need a better one-track system. I'm somewhat skeptical about the trickle-down approach to health care availability. The needs are so huge among poor kids for health-related social services, educational services, and services for dealing with the drug epidemic, that I feel we need a recommitment—like we had in the '60s—to focus our energy and resources on these children. I would like to meet anyone who is able to present a valid argument that any governmental program has been more successful and more important than Head Start. Why is Head Start so important? Because it focuses effort on a significant problem and on the group of kids who had that problem to the greatest extent. I think we've lost sight of that.

Crack Epidemic Overwhelms Resources

Minnesota Medicine: The crack epidemic must have been one of the most pressing problems you had to deal with in New York City. How did it become such a grave problem?

Joseph: The crack epidemic has taught us so much. It is a completely artificial, economically motivated epidemic caused by drug dealers' successful efforts to market cocaine. The epidemic has overwhelmed all resources. It has caused child abuse and child homicide rates to double in New York City. In two years, the congenital syphilis rate doubled. You can look at almost any figure that relates to child welfare and trace similar statistics. The need for foster care, which was declining in earlier years, increased again after crack became available in 1985.

Once again, this epidemic did not spread uniformly across the population. It has been concentrated among the poor as a result of drug dealers' special marketing strategy. They took a drug they used to sell for $75 per unit to chic, wealthy people, and figured out how to sell it for $5 a unit to poor black kids in New York City. The crack problem has been absolutely devastating. The infectious disease and morbidity crack drags along with it are extreme. It has brought increases in infectious disease, murder, suicide, and other violence. The adolescent murder rate has increased. I believe eight preteenage kids were shot in New York City in 1989 and 1990. These kids just happened to get in the line of fire of gangs who were armed with automatic weapons. We must figure out a way to deal with the drug epidemic, especially among the poor. There will be successive waves of new drugs. Crack is not the last.

We get a very different picture in the middle class, where drug abuse is declining. However, I don't think there's any evidence that the drug epidemic is waning in the inner cities. In fact, some evidence shows it's getting worse.

Minnesota Medicine: It sounds as though drug abuse constitutes one of the nation's major health problems.

Joseph: That's a good point. When I was in New York City, people often asked what surprised me about the city. The one thing I really wasn't prepared for was how closely related substance abuse is to every major public health problem in the city. You could make the argument that substance abuse is the No. 1 health problem in America today. It certainly is if you include alcohol and tobacco.

Linking Academia to Public Health Practice

Minnesota Medicine: Let's turn our attention to Minnesota. It may be a little early for you to comment fully on this, but what are your goals as dean of the School of Public Health?

Joseph: I have spent most of my professional life in either clinical or public health practice, and that's one of the reasons I was very interested and excited about managing an academic health institution. Along with building the school's excellent academic and research base, it's important to build relevant links with the actual practice of public health. I would like to strengthen the relationships between the school and public health practice. There are a lot of ways to do this—educationally and through shared research objectives, for example. It can also be done through recruitment and placement of students. Minnesota has a very strong history in progressive public health, whether it be smoking legislation, health care access reform, or automobile seat restraint protection. There's a lot of opportunity to work with clinical providers and clinical institutions as well as the local and state health departments to use the talent and energy that exists in the school. This may be easier to do here than in most other places, which I find very exciting.

Minnesota Medicine: What issues will you emphasize?

Joseph: One of my priorities is to prepare people to manage public-sector services. The public sector is becoming more privatized and the private sector is becoming more regulated. The two are converging, and we need to better prepare people to manage in a changing environment.

A second priority is to learn more about environmental health problems. Although I know very little about these problems in Minnesota, there appear to be a number of very significant problems related to suburban growth around the Twin Cities and toxic waste in the Great Lakes. These are serious, economically important issues, and public health has something to offer.

Health care access is another important issue. Some excellent research has been done in the School of Public Health, and I hope it will continue.

Finally, I want to mention health behavior and health responsibility issues. How do you persuade people to take actions that in the long term will benefit their health? The school has a long history of work relating behavior to healthy outcomes. That's probably the largest frontier in public health. Again, Minnesota is an especially good place to work on these issues. It has receptive communities, highly educated citizens, and an enlightened medical community. MM

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The Gift of God

Thoughts and Good Wishes for the Season

Robert O. Fisch, M.D.

I first heard the phrase from an Egyptian mother who was lovingly looking at her newborn infant with her warm, dark eyes and joyful Creole face: "Doctor, she is the gift of God." I have heard this statement and thought it myself many times since.

❦ The little boy was nearly eight years old when he returned home from the hospital. His face was unrecognizable because of his pain, the marks of his disease, and the side effects from the drugs he was taking. The continuing failure of medical intervention had erased any hope for cure. At their last supper, the father said grace: "We thank God for each minute we are together. Time is the gift of God."

❦ The mother looked very refined. Her history revealed surgery for carcinoma of the thyroid. Her little girl was very delicate with similar facial features. Some time later I received a letter from the grandmother, a dermatologist. She had a tumor of the adrenal gland. I went to see my friend and colleague, Dr. Robert Gorlin, a most remarkable human being and a walking memory bank. After glancing at the first line of the letter, he told me that these family members had multiple mucosal neuroma syndrome, a genetic disease. The girl had a 50 percent chance for malignancy, but early detection could prevent disaster. After I met with the parents and discussed the information with them, the mother said, "Dr. Gorlin's knowledge is the gift of God."

❦ At the Art Institute of Chicago is a painting by Renoir called "The Two Sisters." It depicts two young girls on a terrace surrounded by colorful cloth, and behind them flowers, trees, a lake, and a chateau. The beautiful young faces, the soft lines, and the light strokes capture the beauty of a moment in the girls' lives, preserving it for others to appreciate in times to come. The artist's talent is the gift of God.

❦ When driving at dawn in the morning traffic, I turn on my radio and listen to Mozart. It lifts me from the hustle of daily existence, and my spirit playfully flies to the brilliant notes of that musical genius. Two hundred years ago, this child created music that has become a means of enjoyment for generation after generation—a timeless acoustical pleasure. The sound of music, too, is the gift of God.

❦ She was 21 years old and pregnant. Everything was progressing according to her dreams and hopes when, in the third month of her pregnancy, a nodes biopsy revealed the presence of malignancy, the fourth stage of Hodgkin's disease. Her doctor recommended abortion and radiation to save her life. She would most likely live, and she might get pregnant again, but this could not be predicted with certainty. She made her decision immediately, without hesitation. This might be her only chance to give life as it once was given her. She carried her pregnancy to full term and delivered a healthy baby girl. Before she died two weeks later, she told me while hugging her infant: "You know, Doctor, so many claim the importance of different creations and discoveries, yet the utmost achievement performed daily by millions of mothers is giving birth. Life—the gift of God—was given through me to my child."

❦ She was three years old. Her chocolate-brown face radiated when I entered the examination room. She was chewing a cookie. "Hi, Dr. Fisch," she said with a smile. "Would you like my cookie?" She took it out of her mouth and handed it to me. I felt, from her gesture, her love—the gift of God.

❦ The young man, my PKU patient, was graduating from college. At the ceremony, his older PKU sister was pushed in a wheelchair. She could not walk or even say a single word. I remembered traveling on a harsh winter morning to a small town in northern Minnesota soon after this young man was born. I took a blood sample to determine early whether he had the same diagnosis as his sister, whose retardation had alerted us to the hereditary disorder and was the price paid for the boy's early diagnosis. That was more than 25 years ago, before newborns were routinely screened for PKU. Because the boy's blood showed a high phenylalanine level, we started him on a special diet, which allowed him to grow up strong, both physically and mentally. To be able to help this child was the gift of God.

❦ I was tired; it was hard to make the steps. My mind was darkened by fear and sorrow. Depression had taken its toll. Then I saw in the National Gallery a Monet painting from the Hermitage—a woman in a white dress stood with a parasol in the middle of a flower garden. The colors of the flowers radiated the joy of life and brought fresh air into the exhibition hall. As I inhaled the air and absorbed the light, my inner darkness and fears diminished. The artist's masterpiece opened my eyes to life's abundant joys and rewards; that creation of beauty led me to recover from the darkness of my depression. Joy is the gift of God.

Continued

❦ They came from a small village. They had been friends since childhood and had been separated from their parents a long time ago. They knew nothing and had nothing but each other. During the last month of the war they walked through the Alps and over the mountain passes; it was the ultimate test of endurance. It was at that time I met them—two walking skeletons, 16-year-old boys. They had had to keep marching through the snowy winter without food or water; anyone who sat down to rest was shot by the SS guards. The boys walked holding hands. One was blind, and the other was his guide. It had been more than a year since they had left home. Their friendship kept them alive. Their friendship was the gift of God.

❦ We could barely crawl from weakness. Time was disfigured reality; minutes appeared to be months. The tired body's response was close to the complete cessation of existence. Starvation altered the senses. The meaning of life was distorted. All human desires were narrowed to an automatic reflex. We heard the news that the American army was coming to liberate us. A few young, strong soldiers arrived in a jeep. A new life began. Our freedom was the gift of God.

I wish for all of you in the coming years the joy of God's gifts, wherever you may find them. MM

Robert Fisch is a professor of pediatrics at the University of Minnesota and a frequent contributor to Minnesota Medicine.

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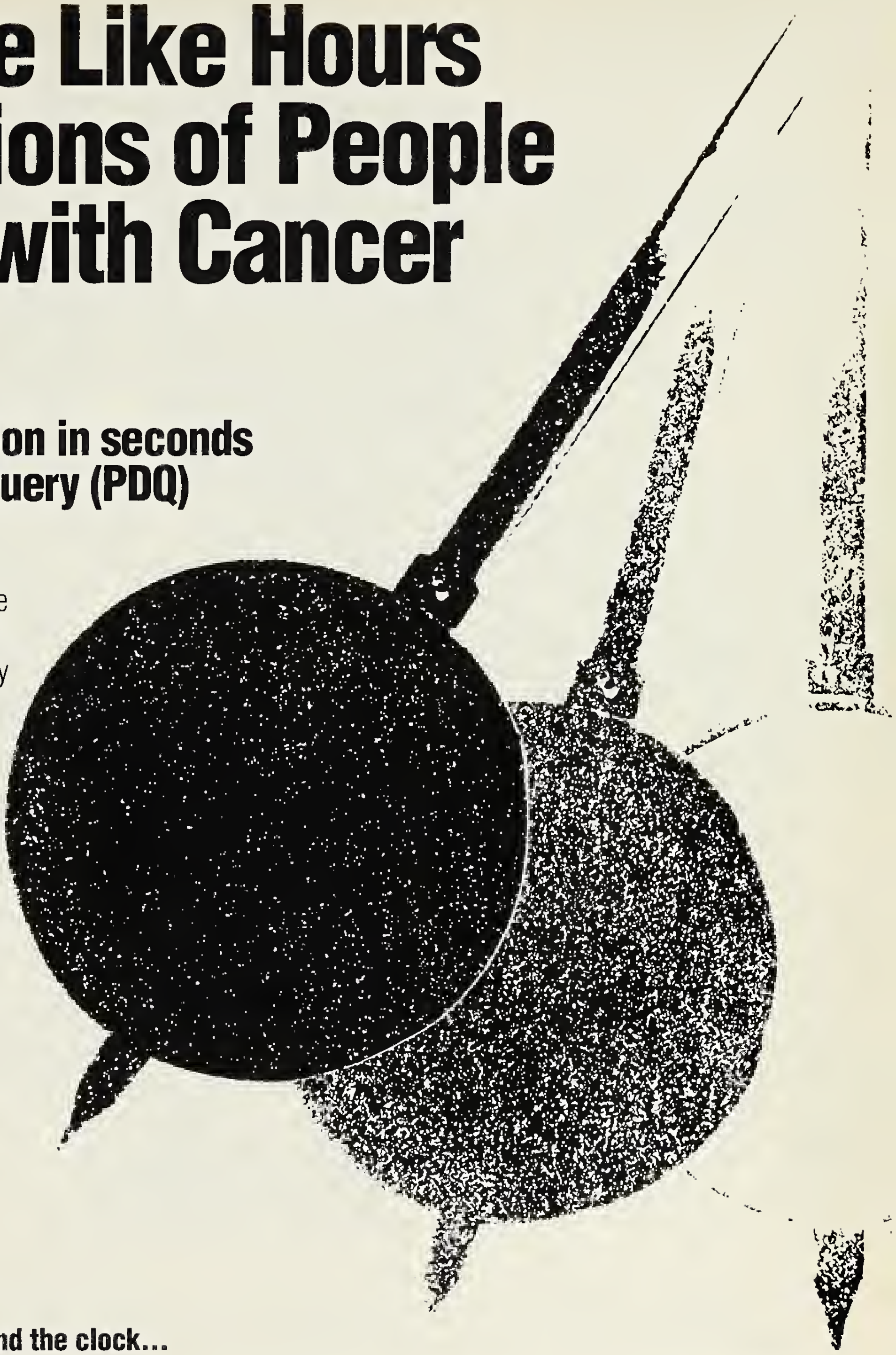

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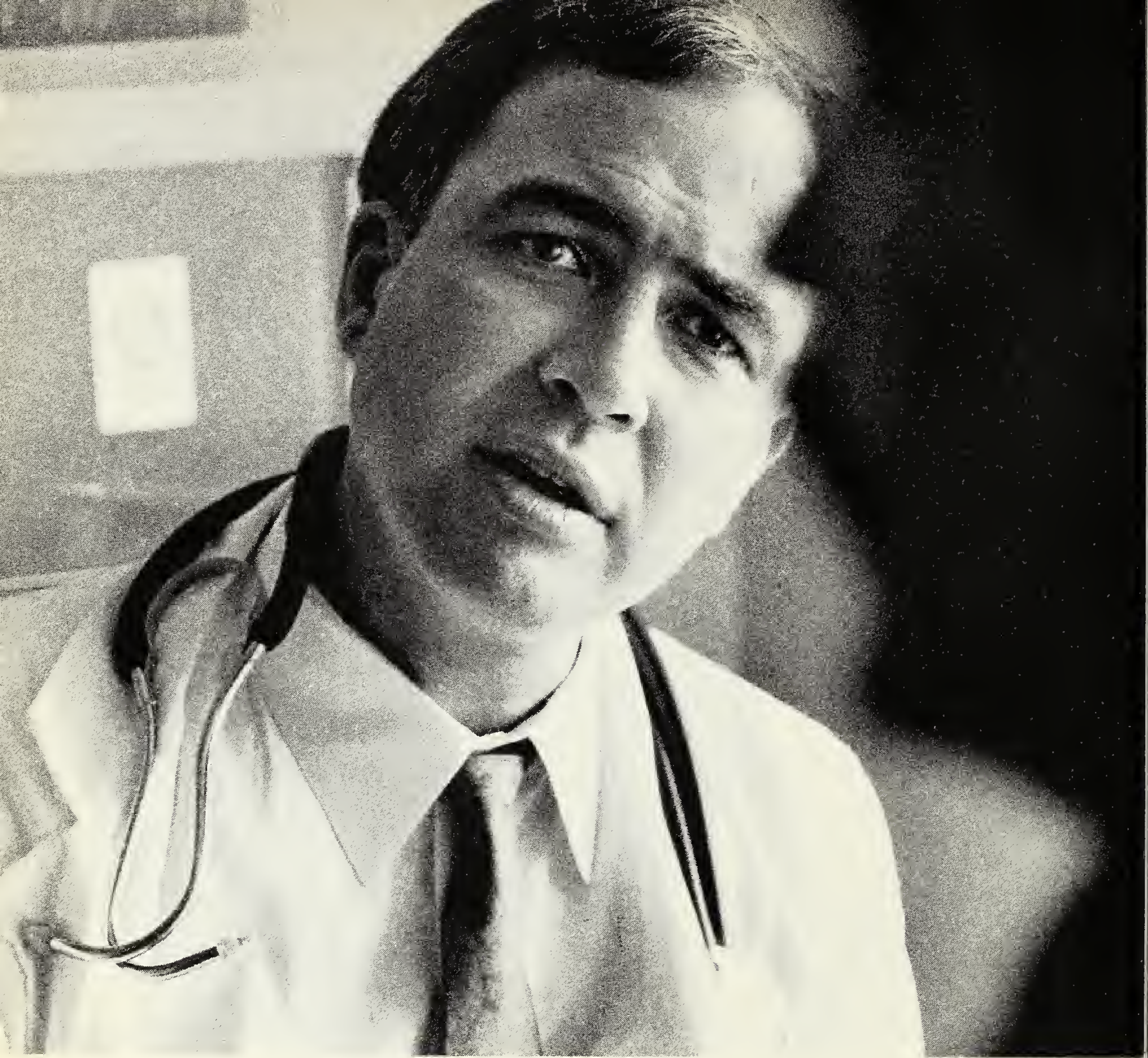

"We must make sure that policies are based on facts, not fears."

Dr. Paul Volberding, Researcher, University of California, San Francisco, Member, American Medical Association

Amid the rancor of politics and budget debates, the needs of the patient are often overlooked. And, it is forgotten that it is physicians who know the most about disease and the suffering of patients.

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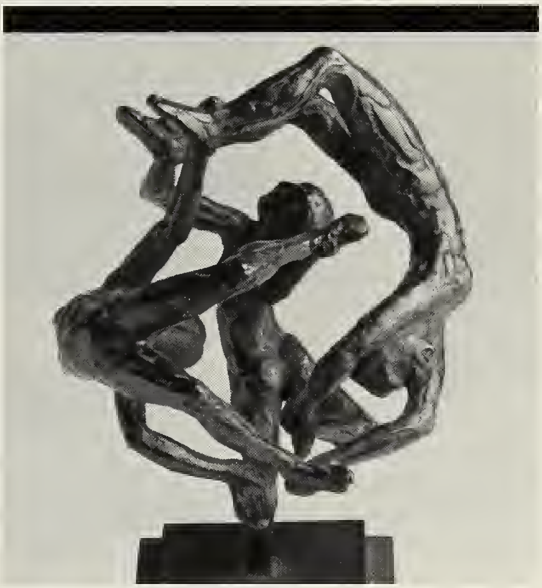
COVER STORY

METROPOLITAN-MOUNT SINAI

Heritage Lives On After the Doors Close



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Sometimes, as T. S. Eliot says, things end, not with a bang, but with a whimper.

When Health One closed Metropolitan-Mount Sinai Medical Center (M-MSMC) this past June, both hospital and Health One administrations waited for the hot white light of media attention to focus on the layoff of 1,200 employees and 350 physicians and the shutdown of 300 staffed beds.

Surprise. Nothing happened.

Well, almost nothing. Apart from a small series of articles in the local papers about discussions the hospital was having with Hennepin County Medical Center regarding the disposition of the building, and a few mentions in state health care publications, Metropolitan-Mount Sinai closed without much notice from the media—and, it seemed, from the community itself.

By Pamela Hill Lampert

"It was appalling. Truly appalling," says Charles R. Meyer, M.D., of Consultants Internal Medicine in Minneapolis. Meyer was on staff at MMC for 14 years and was chief of staff there during the merger with Mount Sinai. "There was so little mention of what had happened—as though there were no far-reaching effects from 1,200 losing their jobs, from medical offices and patients being scattered all over the city. As though a hospital with a tradition over 100 years old could close and no one would miss it."

In these times of constant change in health care delivery systems, are we getting so used to hospital and health care system restructuring, mergings, and closings that one more set of closed doors doesn't even seem newsworthy?

"There seems to be a numbness and tolerance built up. 'Oh, just another hospital closing—no big deal,' " says Marvin Segal, M.D., vice president for medical affairs at Mount Sinai for the three years before the merger and vice president for medical affairs at M-MSMC and Health One's West Region from 1988 to November 1991.

"Clearly we've had closings in the Twin Cities before," says Meyer, remembering Eitel, Deaconess, Samaritan (and the refocusing of hospitals into specialty non-acute areas, like Golden Valley Health Center and HealthEast Bethesda Lutheran Hospital), but three closings in 10 years still doesn't seem commonplace enough to not make the news."

Physicians weren't the only ones wondering where the paparazzi were. The administration had prepared for intense scrutiny and received barely a passing glance.

Donald Wegmiller, president and chief executive officer of Health One, M-MSMC's parent organization, wonders if the media are no longer surprised at structural changes in health care. "Perhaps it's become part of today's society. There no longer seems to be a sacrosanct attitude toward hospitals as an unchangeable part of the community." Whether we like this attitude or not, Wegmiller adds, it is one explanation—not a justification—for such limited media coverage.

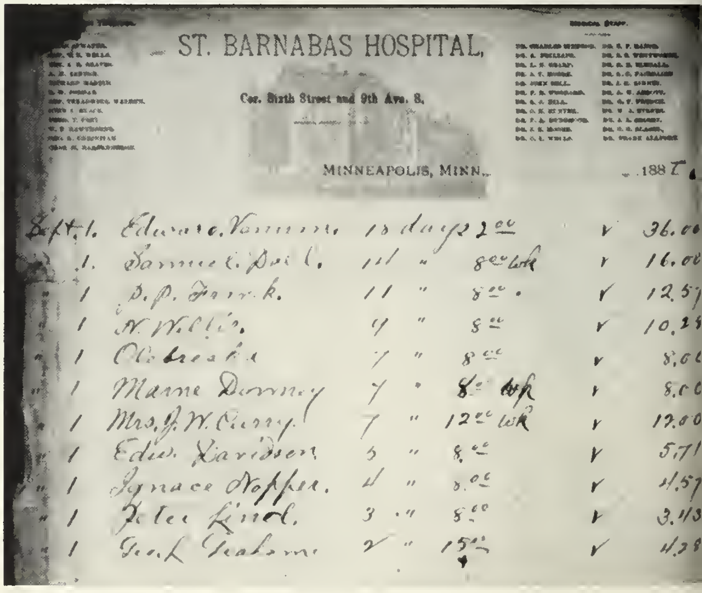
Another explanation is offered by Star Tribune health care affairs reporter Gordon Slovut. Because M-MSMC was negotiating with Hennepin County to sell the building to the adjacent Hennepin County Medical Center, the story became one of local politics rather than of a local hospital closing—a slant that was too complicated and boring to make good copy.

"It got to be more of a political story, a labor story," says Slovut. "If it had been a straight-out closing, it would have probably been more interesting to people. If it hadn't involved county politics, the electronic media might have covered it more."

The story about the effects the closing would have on employees, physicians, and the community was eclipsed by the story about what would become of the building, says Slovut, "even though there was a very real loss, and many lives were affected."

Although the loss may not have been well publicized, it has been heavily felt. Physicians who "grew up" at Metropolitan Medical Center and at Mount Sinai Hospital had to relocate to other facilities, as did nurses, ancillary service staff, and other employees. Management and staff transferred successful M-MSMC programs and services to competitor hospitals. Patients of St. Barnabas, Swedish, and Mount Sinai hospitals and of Metropolitan Medical Center, whose cultural traditions had been carefully preserved and blended during the final 1988 merger into Metropolitan-Mount Sinai Medical Center, followed their doctors to new sites without their old history. The Jewish community lost the first hospital in the Twin Cities to admit Jewish physicians to its staff, and the first Jewish-sponsored, non-sectarian hospital in the area. The Twin Cities lost a 120-year-old heritage of disparate cultures coming together for the honorable cause of providing excellent health care.

The Swedish Hospital's ambulance, 1902.



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" 1	[illegible]	11 "	8.00	✓	12.57
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" 1	[illegible]	7 "	8.00	✓	8.0
" 1	[illegible]	7 "	8.00 wk	✓	8.0
" 1	Mrs. J. W. Curry	7 "	12.00 wk	✓	12.00
" 1	Edw. Davidson	5 "	8.00	✓	5.71
" 1	Ignace [illegible]	4 "	8.00	✓	4.57
" 1	Peter Lind.	3 "	8.00	✓	3.43
" 1	[illegible] Graham	2 "	15.00	✓	4.2

A billing record from St. Barnabas Hospital, 1887.

A Merging of Traditions

Cottage Hospital, the first hospital to open in Minneapolis, was renamed St. Barnabas Hospital in 1881. Created chiefly by the efforts of Episcopal minister David Buel Knickerbacker, the eight-bed hospital grew to 40 and then 75 beds, adding a school of nursing in 1894 that graduated 1,648 nurses before it closed in 1973.

Operating room at The Swedish Hospital, 1908.

Bedside teaching rounds at Mount Sinai, 1961. Marvin Segal, M.D., is pictured at center with hand against wall.

The Swedish Hospital opened in 1898, supported by Swedish clergy and physicians. Swedish established its own nursing school in 1899 and had expanded from 25 to 500 beds by 1957.

Jewish community leaders created Mount Sinai Hospital in 1950 to provide a facility where medical staff membership was not based on religion or race. Dedicated from the beginning to research and education, Mount Sinai affiliated with both the University of Minnesota residency program and with what eventually became Hennepin County Medical Center (HCMC).

To eliminate duplication of services and programs, to lower costs, and to help fill beds, St. Barnabas and Swedish hospitals consolidated in 1970 to form Metropolitan Medical Center (MMC). For increased efficiency, MMC cooperated with next-door HCMC, sharing selected space, equipment, and resources.

Finally, in 1988, MMC and Mount Sinai themselves merged, creating Metropolitan-Mount Sinai Medical Center. Episcopal, Swedish, Lutheran, Catholic, and Jewish constituencies joined together in one unified institution.

Did the merger work?

At the staff level, Meyer says, the merger seemed like a success. "There was cordiality and an amazing mix of cultures and religious backgrounds that basically worked."

Segal, who was Mount Sinai's vice president for medical affairs at the time, agrees. "When Mount Sinai and MMC came together, we really worked to see that the different medical staffs would get along. We really tried hard, and I think from the beginning it was an amiable, well-functioning team."

More Red Ink Than Black

Existing traditions were honored, with auxiliaries and foundations remaining separate and historical exhibits of each of the original hospitals being displayed in the hallways of M-MSMC.

But you can't take tradition to the bank. Both MMC and Mount Sinai were far from financially strong before the merger. Once M-MSMC was created, the joint pursuit of the black ink continued, but in vain.

"Both organizations knew they were frail," says Segal. "Everyone from Health One to the hospital leadership truly felt the merger could do what it was trying to accomplish. There was a positive feeling early on, but then the bloom came off the rose."

Like all hospitals, M-MSMC suffered under the constraining reimbursement regulations of today's health care market and was additionally burdened with a hefty Medicare and Medicaid patient mix and a large indigent population.

"We all know Medicare and Medicaid do not pay the costs of services provided," says Wegmiller. "When you get to about 60 percent of your patients being covered in this way, there is simply no way you can adequately shift those costs anywhere else."

In other places in the country, those costs can be shifted to managed care or fee-for-service patients. In Minnesota, managed care providers negotiate set costs per procedure, and an estimated 47 percent of the total population is in a managed care program of some sort. Given these conditions, says Wegmiller, a hospital can have a good facility, a positive location, a large medical staff, and a sizable patient volume and still lose money.

Such explanations from management don't always seem sound to physicians, and Meyer admits that some staff physicians had a more cynical outlook. "There were always a few folks who held that management planned to close both hospitals from the beginning, that the merger was destined to fail, despite what the consultants we hired said about the potential we had to succeed," he says.

Meyer speculates that MMC was already oversized within the first two years after its building program was completed in 1970. "We continued to struggle with a plant that was out of proportion to what was needed and a patient population that was declining."

"The seeds of destruction were probably sown back in 1970, when MMC was the premier hospital in the cities," says Paul Olson, M.D., who laughingly describes himself as the "vice president of the M-MSMC medical staff in perpetuity" because he held that post at the time of closing. Olson thinks MMC's failure to secure high-reimbursement specialty services—he gives Abbott Northwestern's heart institute as an example—meant inevitable disaster down the road.

With its history of mergers, M-MSMC tried one last consolidation attempt with HCMC in its struggle for survival. Negotiations broke down, however, and the dissolution of the hospital began.

Cottage Hospital, 1871, the first to open in Minneapolis.

Although as a medical staff officer Olson was involved in those talks, he says he still finds the concept of trying to run a hospital like a business somewhat contradictory. "The thing that upsets me is the difference in agendas between doctors and big business. We are trying to do the same thing for two different reasons. The logic of the thing defies me. The hospital didn't make money, but it was supposed to be nonprofit. So, why is the bottom line money?"

Health One calls what eventually happened to M-MSMC a transition, but others call it a closing and look for someone to blame. Some insist the hospital administration could have managed more efficiently, although Meyer says "they did as much as they could with what they were allowed to do—they really had their hands tied."

Some claim Health One intended to close the facility from the first moment of the MMC-Mount Sinai merger, but Health One management says they were committed to helping M-MSMC succeed right up to the 11th hour. When discussions about merging with HCMC unraveled, county politicians and that hospital's administration became the final scapegoats.

During the years after the final merger, Olson says staff physicians knew the hospital would close. "We weren't led to believe that, but we felt that. We were living with that for five years. The last few managers probably realized it was doomed to close, but they were limited in what they could do. They didn't really have free rein."

The doctors were saddened by the decision to close the hospital, says Olson. "I grew up at MMC. My father was a radiologist at St. Barnabas. Some of the best physicians in town were at this hospital—it had a fine medical staff. The nursing staff here was outstanding.... We saved a lot of lives, got a lot of things done here. It was a wonderful place. It was like old-time medicine at its best. I thought of it as my home."

A Smooth Transition

Olson's nephrology practice is based in downtown Minneapolis, and he already had privileges at several hospitals, so his personal transition wasn't difficult. "The nursing staffs at Abbott Northwestern and Riverside Medical Center seem to have been prepared to see new faces and went out of their way to welcome new staff members," says Olson.

Neighboring hospitals did, in fact, prepare for the imminent dissolution of M-MSMC and carefully planned to accommodate the concerns of physicians and patients during the transition.

"We could empathize with the sadness people felt," says Mary Small, director of communications/public relations at Abbott Northwestern Hospital. "All of these hospitals were founded in a spirit of philanthropy—out of real concern for the health of the community and its residents. We really saw this as a chance not only to welcome everyone, but to incorporate some of the traditions of the hospitals that make up M-MSMC." (To demonstrate their efforts to include M-MSMC staff and patients, Abbott Northwestern installed sculptures by Georgette Sosin: "The Healing Spirit," previously displayed at Mount Sinai along its south façade, and "In the Beginning," a sculpture commissioned at the time of the MMC-Mount Sinai merger. A special dedication was held November 5.)

Wegmiller stresses that the process of transplanting physicians, employees, programs, and services wasn't haphazard or accidental. "This was actually a very well-planned and thoughtfully carried out change process that was more a transition than a closure," he says.

Wegmiller credits the hospital's physicians, nurses, and staff with creatively organizing a gradual absorption of M-MSMC's programs into other area hospitals and sites. Although the people and services of the hospital are no longer consolidated at one location, almost all of the employees are working today, and many of the services are still being offered. The building itself is far from boarded up and deserted. HCMC owns and uses much of the space, and other Health One services and offices are now housed in portions of the building still owned by Health One.

"Some of these programs may not be as large as they once were, but they're intact," says Wegmiller. "This could be luck. On the other hand, it could be well-managed change. If we have to have change in health care delivery—and, today, we all know we do—let's manage it so it's as successful and as positive as possible."

To try to meet that goal, Health One hired a consulting firm to investigate how other regional businesses had handled similar situations. "What we found out was that no one else had done it very well," says Tom McLaughlin, vice president of human resources at Health One Mercy and Unity Hospitals and M-MSMC. "Their ways left a lot to be desired. Instead of following existing guidelines, we developed our own plan based on our own values." In a move that McLaughlin credits for much of the plan's success, many of the employee unions participated in the planning process.

As part of its plan, Health One instituted early retirement options at all its metropolitan facilities—M-MSMC, Phillips Eye Institute, Health One Mercy Hospital, Health One Unity Hospital, Fridley Convalescent Home, United Hospital of St. Paul, Health One Buffalo Hospital, Health One Home Care and Hospice, Health One Medical Oxygen and Equipment, and Health One Transportation. Some employees at M-MSMC took advantage of this, and other Health One employees who used this option left open positions that could later be filled by M-MSMC personnel. A hiring freeze throughout Health One metropolitan facilities was also enforced. Although this left some hospitals temporarily short-handed, it created job openings for the M-MSMC employees about to be laid off.

The 60-day notice came to 1,200 employees May 1. Health One opened a placement center, staffed with human resources and union personnel who could interview and hire people for area hospitals on the spot. "Key here was the involvement of the unions," says McLaughlin. "If an RN came into the placement center looking for job options, she'd speak to a human resources person, but also to her own union representative. We worked together with the unions here, and that visible cooperation helped our employees have confidence in the placement center."

Of the 1,200-plus hospital employees, somewhere between 88 percent and 91 percent are currently employed at other facilities, working in their own fields. So successful was its outplacement plan that Health One gained national recognition for it, receiving one of four national "Awards for Excellence in Managing Corporate Change" from the Association of Outplacement Consulting Firms.

The gradual decrease in services was handled "beautifully" by the staff, says Segal. "As one of the 'embattled warriors' who went through that," he says, "I think the services were phased out responsibly. There were doctors who said they'd be here to the last day we were open. We said, 'Fine, but if we don't have the folks to provide adequate care, we won't pretend we can deliver it.' " As people were placed at different hospitals, a committee

Where Are They Now?

Many of the programs and services once offered at Metropolitan-Mount Sinai Medical Center have now moved to other hospitals in the area.

Behavioral Health Services, including physicians, nurses, and other staff, are now part of a joint venture involving M-MSMC and Abbott Northwestern Hospital. Known as BehavioralCare Network, the joint venture is based at Abbott Northwestern.

The Miland E. Knapp Rehabilitation Center has moved to HCMC.

The major orthopedic programs are still staffed by the Metropolitan Orthopaedic Associates and are at HCMC.

Diagnostic radiology services are in the same location and operated by HCMC.

Emergency room services were transferred to HCMC.

The joint M-MSMC/HCMC perinatal program is now solely managed by HCMC with the same staff as before.

The Arthritis Care Program, including physicians and staff, has moved to Abbott Northwestern.

Parkside Family Physicians, Martinson Clinic, Schulz and Olson Clinic, and a time-share facility in Plymouth—all once owned by M-MSMC—are still in operation and are owned by LSI, Inc., an affiliate of LifeSpan. Abbott Northwestern is also a LifeSpan affiliate.

Clinic 42, the infectious disease clinic, moved from the Phillips Campus site of M-MSMC to Abbott Northwestern.

Phillips Eye Institute is still in operation on the Phillips Campus of M-MSMC, employing about 200 people in its outpatient and 10-bed inpatient operation.

Of the five M-MSMC site wings (named A, B, C, D, and E), Hennepin County bought A, B, and C. HCMC already owned part of A and would have assumed total ownership eventually through a prior agreement. Wings D and E are owned by Health One and currently house administrative and staff offices.

reviewed the human resources at each service. "When we no longer had the staff in one area, that area was closed or transferred," he explains.

As M-MSMC gradually closed, its physicians began relocating to other institutions around the Twin Cities. "For the most part," says Segal, "our physicians were able to find other homes, being welcomed to Abbott Northwestern, Riverside, Methodist, Hennepin County, and other hospitals. Maybe there are a few older, hospital-based doctors in overcrowded fields who have had problems, but there's been a minimal amount of disruption and, as far as I know, no doctors are on the street."

The Hospital Is Closed

Nonetheless, some physicians felt betrayed. Those who had moved from Mount Sinai to the downtown campus and remembered assurances and promises of success had hopes for growth, not closing. Both Mount Sinai and MMC were the kind of hospitals where physicians built careers, created lifelong working relationships, and contributed to their own cultural or religious communities.

"Practicing medicine is a very personal thing," says Olson. "We go into it for very personal reasons. We take our jobs very personally. We get personally concerned about the welfare of our patients." Even when change develops gradually, its arrival often feels abrupt, and such upheavals in health care delivery can feel like personal affronts to physicians.

"There are probably physicians who feel there should have been opposition to this," speculates Wegmiller. "Opposition from the media, from the community. Investigations into what caused it to happen. I would imagine a lot of doctors believe this would not have happened if we would have just managed costs better."

A Swedish Hospital nurse measures a newborn, 1958.

David Jones, M-MSMC's senior executive officer during the hospital's last few months and currently the senior executive officer for United Hospital, says he thinks of the outcome at M-MSMC with real regret. "You can't go through a change like this without having a high level of concern for everyone affected. We tried to inform people of what was going on, we tried to involve many physicians in decision making. I don't think what happened was truly a surprise to any physician. In my opinion, that was the best team of people, bar none, working in health care. I look back on that experience with a great deal of pleasure. I felt part of a team."

The closing of M-MSMC naturally affected the hospital's patients, as well. Most were informed of the changes by their own physicians and took direction from their doctors about which other area hospitals to use. For off-the-street emergency patients without personal physicians, signs were posted at M-MSMC's entrances suggesting the local options of HCMC, Abbott Northwestern Hospital, and Fairview Riverside Hospital. Detailed directions to next-door HCMC (a hospital that has also long served the elderly and the indigent) were also posted for emergencies.

"Those were our people," says Jones. "We had a lot of experience with them. We learned how to serve them well. My overwhelming feeling now is sadness. That hospital was a community resource that is missed."

"What is really lost in this transition would be difficult to describe," Segal says with a sigh, remembering he worked at Mount Sinai in high school, joined its medical staff straight out of medical school, lived much of his life there, met many of his friends there. "It's intangible, it's ethereal. You can't get your hands around it. A person looking at it from a purely business perspective would say nothing is lost. It was a win-win situation. Most services are still intact but just transferred—efficiency was increased.

"I guess that's right—this was simply an evolution as a result of multiple factors and has to be accepted—but there was this proud heritage, and now it is no more."

It might actually be saying something good about the Twin Cities that we can no longer support a separate hospital for each of our cultural and religious groups. Perhaps M-MSMC's character, born of its mixture of cultural and religious origins, was both its strength and its downfall. Each hospital in the evolution of M-MSMC served its own proud heritage—but perhaps those traditions are best honored and protected in music, art, literature, churches, synagogues, and families. In hospitals, these diverse traditions blend into the larger, more universal tradition of simply taking care of one another. **MM**

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Minnesota Medicine *is grateful to the Historical Library of Metropolitan-Mount Sinai Medical Center for providing the photographs for this story and to librarian Helen Whiting for her assistance. The library is dedicated to preserving the heritage of the medical center's parent hospitals—St. Barnabas Hospital, The Swedish Hospital, Mount Sinai Hospital, and Metropolitan Medical Center. Located on the lower level of Building C, Hennepin County Medical Center (formerly Metropolitan-Mount Sinai), the library is open Tuesday afternoons from 1:30 to 3:30 and by appointment. The phone number is 612/347-4987.*

Alcohol-related Birth Defects

Minnesota's Response to a Critical Health Problem

Barbara J. Leonard, R.N., Ph.D., Lynn M. Boettcher, M.P.H., P.T., and Janny Dwyer Brust, M.P.H.

Fetal alcohol syndrome (FAS) and alcohol-related birth defects (ARBD) are the main causes of mental retardation in the United States, surpassing Down's syndrome.[1] The often severe and lifelong suffering FAS and ARBD inflict is costly and entirely preventable.

Yet, recent reports of illicit drug use, especially cocaine, have overshadowed the far more common problem of alcohol use during pregnancy. According to the 1989 Minnesota Household Survey of Drug and Alcohol Use, the most frequently abused substance in Minnesota is alcohol.[2] Seventy-one percent of young women (18 to 25 years old) surveyed reported consuming alcohol in the past month. Fifty-two percent of 18-year-old women reported having had sexual intercourse at least three times in the past month, and only 37 percent reported using birth control. Seven percent reported at least one pregnancy.[3] These results reveal a high rate of alcohol use among young women as well as high rates of unprotected sexual activity, which together increase the risk of giving birth to a child with FAS/ARBD.

To identify strategies for significantly reducing the incidence of FAS/ARBD in Minnesota, the University of Minnesota School of Public Health organized the Healthy Roots Conference, which brought together a diverse group of individuals from various professions, agencies, ethnic backgrounds, and geographic areas. This report summarizes some of the information presented at the March 1991 conference.

Clinical Aspects of FAS/ARBD

Fetal Alcohol Syndrome is diagnosed if at least one feature from each of the following categories is present:

1. Growth deficiency of prenatal origin (height and/or weight below the third percentile when corrected for gestational age).

2. A pattern of specific minor anomalies that include characteristic facies such as short palpebral fissures (small eye openings), ptosis (drooping eyelids), microphthalmia (shallow eye sockets), midfacial hypoplasia (long, flat midface), epicanthal folds (extra fold on inner-upper eyelid), underdeveloped philtrum, shallow notch in the upper lip, exaggerated space between the nose and upper lip, and small head circumference (below the third percentile). Because normal ethnic facial characteristics, such as epicanthal folds in American Indians, may resemble this facies, additional diagnostic criteria should be used.

> "The threshold of 'safe' alcohol consumption during pregnancy has not been identified."

3. Central nervous system manifestations (mental retardation with IQs ranging from 20 to 95, microcephaly, delayed development, hyperactivity, attention deficits, intellectual/learning deficits, motor incoordination, or seizures).

4. Maternal history of alcohol use during pregnancy.[4,5]

The attending physician can identify many of these defects at the child's birth, and it is important that the FAS diagnosis be made at that time or shortly after so the child and family can receive early intervention services.

After puberty, individuals with FAS have fewer distinctive facial characteristics. They continue to present deficiency in height, but weight is closer to the mean.[5] Head circumference is small, and there is a wide variability of IQ scores with a mean of 66. Maladaption that continues into adulthood results from such behavioral problems as poor judgment, distractibility, and difficulty perceiving social cues.[4]

Women who drink heavily (more than 60 drinks per month) during pregnancy are at greatest risk for delivering an affected baby.[1] The children of mothers who drink smaller amounts are also affected. The threshold of "safe" alcohol consumption during pregnancy has not been identified. Therefore, the National Institute on Alcohol Abuse and Alcoholism has advised women to *abstain* from drinking alcohol during pregnancy.[6]

Women who drink more moderately or drink "socially" may give birth to children with clinical symptoms similar to FAS. This cluster of effects is often labeled fetal alcohol effects (FAE). However, the term is ambiguous and often misused. Therefore, use of the term alcohol-related birth defects is recommended.[7] These children may not exhibit the craniofacial characteristics common to FAS children, but they do exhibit distractibility in school, poor social skills, lack of judgment, and lowered academic achievement.[6] They often have problems understanding abstract concepts and considering future consequences. As infants, they may exhibit poor sucking, irregular sleeping patterns, irritability, and development delays.[8]

Although they have no obvious physical disability or abnormality, ARBD children often have increasing difficulties in adolescence and beyond. These difficulties include inappropriate social behaviors, such as excessive demands for physical contact, lack of impulse control, poor decision making, and a decreased ability to attain independence.[4]

Although it is known that the type of alcohol, the dose, the gestational stage during which the mother consumes alcohol, and the mother's nutritional intake affect fetal development, it is not known to what degree these factors determine the severity of the mental and physical effects.[5,6]

Besides FAS/ARBD, maternal alcohol consumption has been associated with an increase in miscarriages, stillbirths, and early maternal death.[4,6]

Prevalence in United States

In the United States, prevalence rates are estimated at one out of 750 live births for FAS and one out of 350 live births for ARBD, reported Robin LaDue, clinical instructor at the University of Washington, at the Healthy Roots Conference. She said that every year 5,000 babies are born in the United States with significant birth defects secondary to maternal alcohol abuse during pregnancy. An estimated 36,000 are born with lesser effects secondary to maternal alcohol consumption. A recent study, however, presents lower estimates. That study concludes that 1,200 children are born annually with FAS in the United States, with an estimated prevalence rate of .33 cases per 1,000 live births.[9] These estimates, however, excluded American Indians because prospective data were lacking for that group.

An estimated 30 to 40 percent of the children with chronic alcoholic mothers who drank during pregnancy will be born with FAS.[4] In 1985, the lifetime cost of one FAS child was calculated at $814,000.[10] This estimate includes treatment in a neonatal intensive care unit, special education, home care, and residential facility costs. A more recent study estimates the annual cost of treating those with FAS at $74.6 million.[9]

Prevalence in Minnesota

According to Carolyn McKay, M.D., former director of the Maternal and Child Health Division of the Minnesota Department of Health, FAS is grossly under-reported in Minnesota. She reported at the Healthy Roots Conference that only four of 7,000 Minnesota birth certificates reviewed mentioned FAS. By extrapolating estimated prevalence rates and birth rates, McKay estimated that 114 children with FAS would be born each year in Minnesota. (This figure is derived from multiplying a 1.7 prevalence rate per 1,000 births by Minnesota's annual live-birth rate of 67,000.)

Prevention

Minnesota has taken steps toward preventing FAS/ARBD. The 1989 Legislature passed a provision directing the commissioner of education to help school districts develop and implement programs to reduce or prevent prenatal exposure to controlled substances and alcohol. In addition, the Minnesota Department of Human Services' Chemical Dependency Division has made available an educational curriculum designed for secondary schools. Additionally, the Minnesota Indian Women's Resource Center in Minneapolis has information about a curriculum called, "Young Child, Old Spirit," which is designed for use with American Indian children from preschool through third grade. Cultural values are embodied in this curriculum aimed at helping children who live with chemical abuse at home. The Soaring Eagles Project, designed for American Indian children aged 3 to 21, provides a chemical-free, culturally sensitive environment in which to make healthy lifestyle choices. It is located at the Indian Health Board in Minneapolis.

Minnesota passed legislation in 1990 directing the commissioner of health to produce and distribute posters warning that the consumption of alcohol could damage fetal development. The posters were made available free of charge to all establishments with liquor licenses, but the establishments are not required to post them. Some states have adopted more aggressive FAS/ARBD legislation, imposing fines on liquor establishments that do not post warning signs. Some states require distribution of FAS information with marriage licenses.[11]

In 1990, the Minnesota Institute of Public Health designed six posters and one brochure to increase awareness of the dangers of alcohol and tobacco use during pregnancy and while breast-feeding. They were distributed to high schools and health care facilities frequented by women 14 to 20 years old. The brochure was also distributed to obstetrician-gynecologists for use during patient consultations. The posters and brochure can be obtained at no cost from the Minnesota Department of Human Services' Chemical Dependency Program Division or from the Minnesota Institute of Public Health.

Group Health, Inc., in Minneapolis and Health Start in St. Paul screen pregnant women and provide enhanced services for those at high risk of chemical use during pregnancy. Risk assessments are completed for all pregnant clients.

Despite these various efforts to educate the public about the dangers of drinking during pregnancy, no standardized FAS/ARBD curriculum is offered to physicians or nurses in Minnesota, according to Carolyn McKay and Cynthia Turnure, director of the Chemical Dependency Program Division of the Minnesota Department of Human Services. Because the health care system is the natural place for screening alcohol abuse and diagnosing FAS/ARBD, it is crucial that physicians and other health care workers be knowledgeable about the problem and able to recognize it. If a physician discovers that a woman patient is abusing drugs or alcohol, the physician can make an appropriate referral. Local residential treatment programs for women are Turning Point, Eden Day, and Towards a New Me. The Eden Day program offers housing for these women's children. According to conference speaker Iris Smith, project director of the Georgia Mental Health Institute in Atlanta, treatment for women should include the following elements: female staff; provisions for child care, including parenting classes; assertiveness training; job skills training; remedial education; and employment assistance. Treatment should be culturally sensitive and emphasize women's roles and relationships.

The Maternal and Child Substance Abuse Council, composed of an interdisciplinary group of professionals dedicated to reducing maternal substance abuse in Minnesota, meets regularly. More information about the council can be obtained from the Chemical Dependency Division of the Minnesota Department of Human Services. Resources and information on FAS can be obtained from the Minnesota Prevention Resource Center in Anoka and from the Minnesota Indian Women's Resource Center in Minneapolis.

Combating Alcohol Abuse

Information regarding the harm alcohol abuse causes should be included in everyone's education. Child abuse; homicides; suicides; deaths by fire, car accidents, drowning; and FAS/ARBD have all been associated with alcohol abuse.

Public service messages are often targeted at pregnant women, even though men play a major role in women's patterns of alcohol use. Research has shown that women who abuse alcohol are usually doing so with partners, friends, and family members.[12] In addition, although a man's contribution to FAS/ARBD is uncertain, one study has shown that paternal drinking is associated with lower birthweights.[13] Associated issues of racism and sexism, which contribute to drinking during pregnancy and affect access to and success in treatment programs, must be simultaneously addressed.

Combating the harmful effects of alcohol is difficult because alcohol is a legal, widely accepted teratogenic substance. Children and teens should be encouraged to adopt lifestyles as adults where alcohol use is minimal or nonexistent. This is especially important for women contemplating pregnancy or sexual activity since women are often unaware of pregnancy in its early stages, when fetal development is most vulnerable.

Conclusions

Minnesotans have begun to work toward preventing FAS/ARBD, but as Cynthia Turnure stated at the Healthy Roots Conference, "We are not doing enough as a state." She said there are obvious gaps, such as a lack of data, disjointed information and services, lack of a comprehensive long-range strategy, and absence of a systematic way to assess and provide services for affected children.

Those who provide treatment for individuals with FAS/ARBD are committed to primary prevention. The long-term financial costs and human suffering from this preventable condition provide impetus to enhance efforts to reduce and eventually eliminate FAS/ARBD. MM

Proceedings from the Healthy Roots Conference and information regarding a follow-up conference are available from the Maternal and Child Health Major, School of Public Health, University of Minnesota.

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Diagnostic and Therapeutic Advances in Pediatric Cardiology

Second of Three Parts

Ann Dunnigan, M.D., John Bass, M.D., Elizabeth Braunlin, M.D., Ph.D., Kimberly Krabill, M.D., and Albert P. Rocchini, M.D.

ABSTRACT

The practice of pediatric cardiology has undergone remarkable changes over the past decade. Cardiac structural abnormalities may frequently be diagnosed with echocardiography alone, and treatment for many of these structural problems may be corrected during cardiac catheterization. Arrhythmia diagnosis and management have made similar progress, such that diagnosis of arrhythmia mechanisms and catheter ablative therapy may be performed during a single procedure, sparing the young patient a lifetime of antiarrhythmic drug therapy. Cardiac transplantation is now included among the treatment options for some patients with severe congenital or acquired cardiac abnormalities unresponsive to standard therapy. In this paper, we provide a brief description of current applications of recent advances in the practice of pediatric cardiology.

Improvements in diagnostic and therapeutic methods for children with congenital heart disease, including the recent development of therapeutic techniques that can be performed with catheters rather than surgery, have resulted in fewer invasive procedures, shorter hospital stays, and improved outcomes. Until recently, for example, a cyanotic infant with simple complete transposition of the great vessels would have had an echocardiogram and a catheterization at the time of diagnosis to perform a Rashkind balloon septostomy. Frequent monitoring, repeat catheterization, and surgery (an atrial baffle procedure) to correct cyanosis would have followed over the next several months. The morbidity, cost, inconvenience, and risks were significant. Although the surgery has low risks, about 50 percent of patients treated with this technique have significant arrhythmias requiring pacemakers or antiarrhythmic drugs or both, and some patients have developed right ventricular failure.

In contrast, today the infant would undergo a detailed diagnostic echocardiogram, eliminating the need for catheterization. Within a day or so, the infant would undergo an arterial switch procedure to correct cyanosis. The hospital stay is usually a week or less. Associated long-term morbidity (arrhythmias, poor ventricular function) do not appear to be associated with this procedure. Thus, the child would most likely undergo one surgical procedure and no cardiac catheterizations.

This paper discusses some of the recent advances in diagnostic and therapeutic techniques available at the University of Minnesota for young patients with congenital cardiac disease. Although these techniques have been developed over the past 10 years, they are no longer experimental and should be options for all children with congenital heart disease.

Therapeutic Catheter Techniques

During the last decade, the pediatric cardiac catheterization laboratory has been transformed from a diagnostic laboratory to a therapeutic suite where congenital cardiac abnormalities are not only evaluated but are often treated as well. Newly developed therapeutic transcatheter procedures can provide palliative or definitive therapy to children with a variety of congenital cardiovascular disorders.[1] Transcatheter treatment is not only available but has now become the treatment of choice for both infants and children with pulmonary valve stenosis, peripheral pulmonary artery stenosis, aortic valve stenosis, coarctation of the aorta, vena cava stenosis, and mitral stenosis. Embolization techniques are available to deal with aortopulmonary collateral vessels or surgical shunts. Further, new approaches are being developed that promise effective transcatheter treatment of secundum atrial septal defect, patent ductus arteriosus, and some types of ventricular septal defects. Clearly, a pediatric cardiac catheterization is no longer complete once a hemodynamic and angiographic evaluation is performed. The pediatric cardiologist must now ask whether the lesion can be effectively treated in the catheterization laboratory without resorting to a more invasive surgical approach.

At the University of Minnesota Hospitals, transcatheter treatment of congenital heart disease has been performed since 1981 and has steadily increased in importance. In 1990, therapeutic catheterization accounted for approximately 30% to 35% of all our pediatric catheterizations. It is not the point of this discussion to give a detailed description of all available therapeutic procedures, but rather, by briefly describing three short cases, to illustrate how therapeutic transcatheter procedures have dramatically changed the way congenital heart disease is managed in the 1990s.

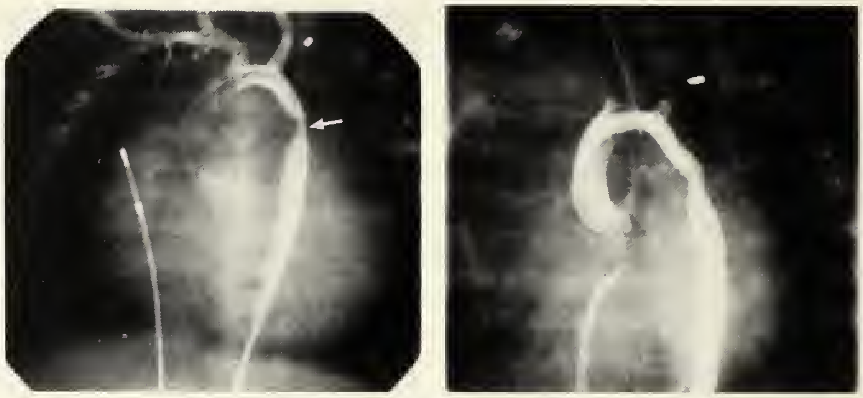

Figure 1—A. The left anterior oblique aortic angiogram pre-dilation is depicted. The arrow demonstrates the severe narrowing of the aorta at the coarctation repair site.

B. The left anterior oblique aortic angiogram post-dilation is depicted. The severe narrowing of the aorta that was present pre-angioplasty has been significantly enlarged.

Case 1

A nine-week-old girl was diagnosed with critical aortic stenosis one week before her admission to the University of Minnesota Hospitals. Prior to cardiac catheterization her electrocardiogram revealed left ventricular hypertrophy and ischemia, and her echocardiogram demonstrated reduced left ventricular function and a peak instantaneous gradient across the aortic valve of more than 100mm Hg. Cardiac catheterization performed on May 9, 1991, demonstrated a left ventricular pressure of 220/20 with a simultaneous ascending aortic pressure of 80/50. The left ventricular ejection fraction was 38% (normal = greater than 60%). Aortic balloon valvuloplasty was performed with an 8mm balloon catheter. Post-valvuloplasty, the patient's left ventricular pressure was 120/16 with a simultaneous aortic pressure of 80/42. Angiography post-valvuloplasty demonstrated no aortic regurgitation. Post-catheterization, the patient was observed for 24 hours and sent home on May 11, 1991. Had the infant been treated with surgery instead of valvuloplasty, she would have been hospitalized for 10 to 14 days instead of three.

Case 2

A 2500-gram infant with a ventricular septal defect and coarctation of the aorta underwent surgical repair of the coarctation during the first week of life. Following surgery, the infant remained in congestive heart failure and failed to thrive. When the infant was six weeks old, echocardiography suggested the presence of a restrictive ventricular septal defect and a residual coarctation of the aorta with an estimated gradient of 30mm to 40mm Hg. Because of the severe congestive failure and the clinical evidence of significant residual coarctation, the infant underwent cardiac catheterization. At catheterization, the infant had a 40mm to 50mm Hg residual gradient across the repaired coarctation site and a greater than 3:1 left to right intracardiac shunt. The coarctation site was dilated with a 4mm angioplasty balloon (Figure 1). Following the angioplasty, the ascending aortic pressure decreased from 120/62 to 90/60, and the coarctation gradient was totally eliminated. The child was discharged three days after the procedure with marked symptomatic improvement.

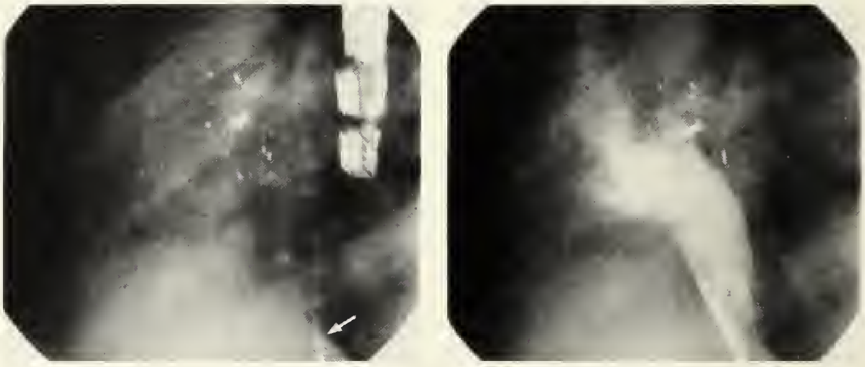

Figure 2—A. The left anterior oblique angiogram of the clamshell occluder positioned in the atrial septum is depicted. Both the transesophageal echo probe and the clamshell release device (arrow), positioned in the inferior vena cava, can be seen in the angiogram.

B. A right atrial angiogram from the same patient demonstrates occlusion of the atrial defect by the clamshell device.

Case 3

A seven-year-old girl with a moderate-sized atrial septal defect was admitted to the University of Minnesota Hospitals on September 12, 1990, for transcatheter closure of the defect, which was completed with a 22mm clamshell occluder on September 12, 1990 (Figure 2). She was discharged from the hospital on September 14, 1990. One year after device placement, the child is asymptomatic and has complete closure of the atrial septal defect. In contrast to surgical closure, device placement resulted in a three-day instead of a

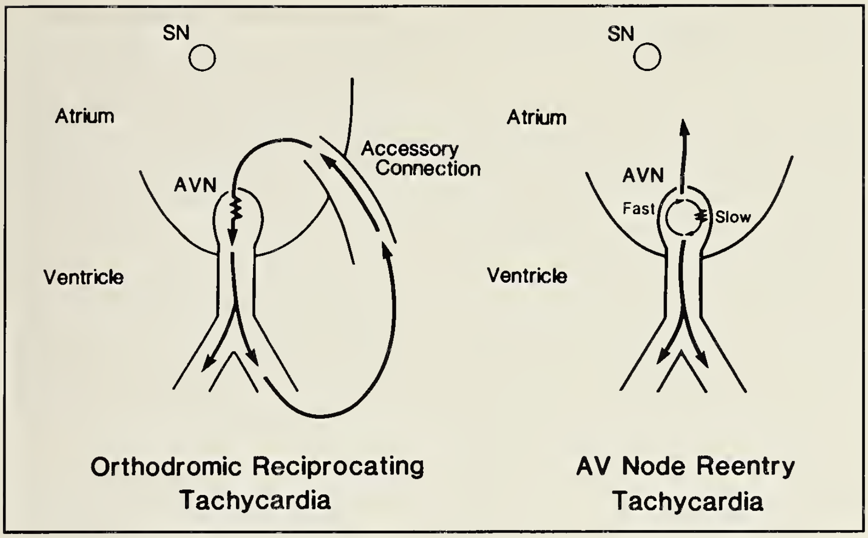

Figure 3—Depicted is a schematic representation of the electrical circuits involved in the two common types of paroxysmal tachycardia in otherwise normal children. On the left is orthodromic reciprocating tachycardia, which utilizes the atrioventricular node for ventricular activation, with atrial activation occurring retrograde via an accessory atrioventricular connection. When this accessory AV connection is present during sinus rhythm, the patient has Wolff-Parkinson-White syndrome. On the right is a diagram of the circuit for tachycardia due to re-entry in the atrioventricular node.

10-day hospital stay, and on discharge, the young girl was immediately able to return to her normal activities.

These cases emphasize that therapeutic transcatheter procedures offer hemodynamic results comparable to surgery but often with much less morbidity. Although formal cost-benefit analyses comparing these procedures with acceptable surgical alternatives have not yet been performed, based only on the shorter hospitalization, therapeutic catheter therapy resulted in at least a $10,000 savings for each patient. Because of the potential for reduced hospital costs, the lack of a surgical scar, the reduced need for blood products, and the shorter recuperation, it is easy to understand why therapeutic catheterization has replaced surgery as the treatment of choice for many forms of congenital heart disease.

New Options for Treatment of Arrhythmias

In children with paroxysmal tachycardia and structurally normal hearts, two tachycardia mechanisms are common: re-entry due to an accessory atrioventricular connection and re-entry in the atrioventricular node or adjacent tissue (Figure 3). In some children, these tachycardias are only an infrequently occurring nuisance, while other children require chronic antiarrhythmic drugs, restriction of activities, occasional emergency room visits for tachycardia termination, and periodic monitoring for drug side effects. In others, especially those with Wolff-Parkinson-White syndrome, these common tachycardias may be life-threatening. Diagnostic electrophysiologic catheterization allows identification of tachycardia mechanism, risks of tachycardia, and treatment options.

Until recently, the only definitive treatment for these young patients was a surgical procedure to eliminate part of the tachycardia circuit. Because of its invasiveness, surgery was usually reserved for patients with life-threatening or drug-resistant tachycardias. A new treatment technique, radio-frequency catheter ablation, has been developed in the past three years for young patients with common tachycardias[2,3] and is usually offered to their families as part of the diagnostic electrophysiologic catheterization. Following identification of the tachycardia mechanism and localization of the abnormal electrical circuit required for tachycardia to occur, radio-frequency energy is transmitted to a small area of the heart, which is heated, or desiccated, resulting in tissue damage sufficient to prevent further tachycardia (Figure 4). Because the area damaged is very small (3mm to 5mm in diameter), the pro-

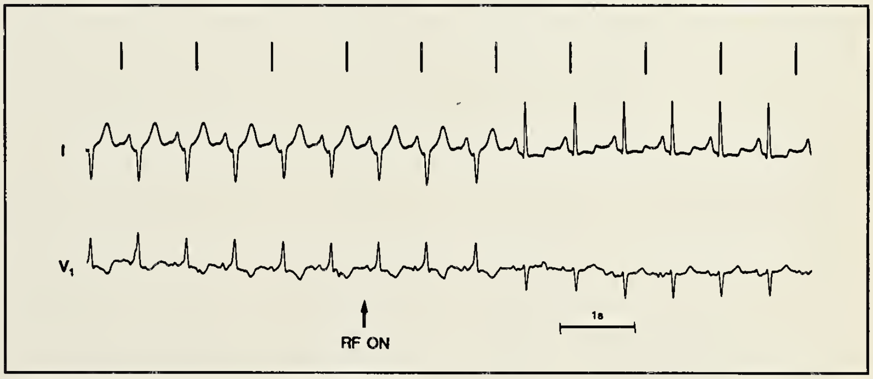

Figure 4—Leads I and V_1 electrocardiographic monitoring during application of radio-frequency energy in a 12-year-old girl with Wolff-Parkinson-White syndrome. On the left, sinus rhythm with pre-excitation (short PR interval, delta wave, wide QRS) is present. Radio-frequency (RF) energy is applied beginning at the arrow, and within two seconds, the PR interval and QRS morphology are normal and there is no delta wave. In this patient, radio-frequency energy was applied for 45 seconds. Two months following the ablation, the patient's electrocardiogram is normal, and she has had no further tachycardia episodes.

cedure has no deleterious effect on ventricular function. The procedure does not require general anesthesia and has been accompanied by very little morbidity. Typical hospital stays are 24 to 48 hours, and the children may resume normal activity within a week. Long-term success (over 90% in pediatric patients at the University of Minnesota) is evaluated with outpatient electrophysiologic catheterization two to three months following the ablation procedure. When this test demonstrates success, cardiac function may be considered normal, and no further cardiology follow-up is required.

Young patients have the most to benefit from a "curative" ablation procedure, since they can then look forward to a normal life, without antiarrhythmic drugs, cardiology visits, or time away from school or work. In addition, the possibility of obtaining insurance is significantly improved. Most effective, sustained-release antiarrhythmic drugs cost the patient (or the insurance company) approximately $100 per month, not including the cost of follow-up visits or side-effect monitoring. Thus, in less than 10 years, the cost of an ablation procedure ($8,000 to $10,000) is recovered.

Other tachycardias, such as primary atrial tachycardias (e.g., atrial flutter) and some types of ventricular tachycardia are not so easily treated with antiarrhythmic drugs or ablation procedures. For these patients, new therapeutic devices are available, including some pacemakers that are capable of detecting atrial flutter, performing a pacing sequence until the tachycardia is terminated, and then providing standard pacing to prevent bradycardia. For patients with polymorphic ventricular tachycardia or ventricular fibrillation associated with cardiomyopathy or long QT interval syndrome, a device may be implanted that can recognize these tachycardias and deliver a defibrillation shock, thus preventing sudden death. Pre-implant electrophysiologic evaluation is important in selecting patients for these sophisticated devices.

Diagnostic Applications for Echocardiography

Cardiac ultrasound has produced a number of changes in the practice of pediatric cardiology during the past few years. Perhaps its greatest impact has been the replacement of cardiac catheterization as the "gold standard" for diagnosis and evaluation of children with congenital heart disease. With the development of color flow Doppler ultrasound and higher-frequency transducers, an accurate and complete noninvasive assessment of cardiac anatomy and blood flow can be made in most newborn infants, and these patients may undergo cardiac surgery based on diagnoses established only by clinical examination and cardiac ultrasound.[4-6]

Studies have demonstrated that a complete echocardiographic diagnosis can show a wide range of anatomical features, from details of pulmonary and systemic venous return to coarctation of the aorta, hypoplastic left heart syndrome, and truncus arteriosus. The completeness of a diagnosis depends on the ultrasound equipment being used, the sonographer's expertise, the cooperation of the patient, and the ability to image the necessary anatomy. Definition of small cardiovascular structures requires high-frequency transducers (in the 5.0 MHz to 7.5 MHz range). The quality and sensitivity of color flow Doppler varies in different machines, and this affects how much detail of the anatomy and blood flow can be reliably defined. The physician responsible for interpreting the ultrasound must be sufficiently experienced to know the limits of the equipment and to identify congenital abnormalities. Usually, the physician making the diagnosis should perform the study, since a three-dimensional image of the anatomy is formed by directing the transducer.

We examined the benefits and disadvantages of relying on clinical examination and cardiac ultrasound without cardiac catheterization in the preoperative evaluation of newborn infants.[6] Eliminating cardiac catheterization had no adverse effect on morbidity or mortality in the patients we studied. The major benefit was a decrease in the length of hospital stay when cardiac catheterization was not performed. The cost of medical care was decreased by the shorter stay and the elimination of hospital and professional charges associated with cardiac catheterization.

Fetal echocardiography

Fetal echocardiography has decreased the age and size of patients benefiting from cardiac ultrasound's diagnostic capabilities.[7] Since the late 1970s, when high-resolution ultrasound equipment allowing visualization of the fetal heart became available, prenatal diagnosis of structural cardiac defects has been possible. Once a fetus is large enough, it is possible to image pulmonary and systemic venous returns, intracardiac anatomy, and the great arteries and ductus arteriosus, meaning cardiac function and rhythm can be assessed. With this capability comes the responsibility for deciding which patients may benefit. For fetal echocardiography to benefit patients and prospective parents, a team approach must be adopted and should include the obstetrician, the pediatric cardiologist, and the radiology ultrasound staff.

The minimum gestational age at which a high-quality cardiac examination can be performed is 18 to 20 weeks, although some details can be seen by 16 weeks. Maternal obesity, oligohydramnios, anterior placental implantation, and engagement of the head with the spine anterior may limit the fetal examination. A successful study can be obtained in 90% to 95% of patients. Good fetal echocardiograms require the same equipment used for pediatric echocardiograms with the capability for color flow Doppler and resolution of high-velocity blood flow. Simultaneous dual M-mode recordings may help to identify fetal arrhythmias when it is not possible to record both atrial and ventricular walls in a single line. The acoustic energy used in diagnostic studies has not been shown to produce harmful effects in the human fetus.

A number of structural cardiac abnormalities have been diagnosed by intrauterine echocardiography.

The easiest to detect are hypoplasia or enlargement of valves or cardiac chambers. Ventricular septal defects associated with truncus arteriosus, tetralogy of Fallot, or endocardial cushion (atrioventricular canal) defects are also easily seen. Abnormalities of the great arteries, such as transposition or coarctation, may be more difficult to detect. Smaller ventricular septal defects or atrial septal defects often cannot be excluded. Clinical situations in which fetal echocardiographic studies may be indicated are listed in the table.

Transesophageal echocardiography

Transesophageal echocardiography allows imaging of the heart and great vessels from within the esophagus and stomach. This technique uses a high-frequency transducer fixed to the tip of a modified flexible gastroscope and provides early access to surgical results at the time of congenital heart surgery. The heart can be examined without disturbing the surgical field, and there is no direct compression of cardiac structures. Small transducers are being perfected, but even with currently available equipment, we have been able to perform intraoperative evaluations on infants as small as 2.1 kg.

Intraoperative transesophageal echocardiography provides both a preoperative evaluation of anatomy and an immediate postoperative assessment of the results. Important preoperative findings available from transesophageal echocardiography include the connection of pulmonary veins, location of multiple atrial septal defects, position of the atrial appendices, function of mitral and tricuspid valves, location of ventricular septal defects, and the presence of ventricular outflow obstruction. Postoperatively, completeness of the surgical repair, the presence of residual or surgically created abnormalities, ventricular function, and intracardiac air are easily assessed. Assessment of mitral regurgitation after repair of an atrioventricular canal defect is particularly useful. Even flow through coronary arteries after an arterial switch procedure for complete transposition of the great vessels may be seen.

New Pharmacologic Therapies

Pharmacologic management of congenital cardiac diseases can be used as a temporizing or stabilizing measure before surgical treatment (for example, prostaglandin E1), a means to avoid surgery (such as with indomethacin to promote ductus arteriosus closure), or as a way to enhance cardiac performance in the treatment of congestive heart failure.

Prostaglandin E1, first described as a dilator of the ductus arteriosus in the fetal lamb in 1973, has been used extensively to treat infants with cyanotic and acyanotic, ductal-dependent cardiac disease.[8] Ductal-dependent defects include those in which pulmonary blood flow must be maintained to ensure adequate oxygenation (such as pulmonary or tricuspid atresia or complete transposition of the great vessels) or those in which much systemic blood flow must be maintained to prevent shock and metabolic acidosis (such as severe aortic stenosis, hypoplastic left heart syndrome, or coarctation of the aorta). Prostaglandin E1 is administered as a continuous intravenous infusion once the diagnosis of a ductal-dependent cardiac abnormality is established. Because apnea frequently occurs, infants are routinely intubated and ventilated before prostaglandin is administered. Other side effects may include systemic vasodilation and hypotension, edema, or temperature instability. In spite of these potential side effects, however, prostaglandin has permitted pre-operative stabilization of many critically ill newborn infants with congenital heart disease.

Table

Indications for fetal cardiac evaluation

Parental factors

Maternal diabetes mellitus
Maternal connective tissue disease
Maternal isoimmunization
Maternal phenylketonuria
Advanced age
History of congenital heart disease

Familial factors

History of congenital heart disease
Genetic syndromes

Exposure to teratogens

Phenytoin
Lithium
Isoretinoin
Oral contraceptives
Rubella
Antihypertensives

Fetal indications

Hydrops fetalis
Intrauterine growth retardation
Abnormal genetic screen
Decreased fetal movement
Arrhythmia
Enlarged or abnormal heart
Other somatic anomalies

The anti-inflammatory agent indomethacin was discovered in the 1970s to promote closure of the ductus arteriosus. In many premature infants, a patent ductus arteriosus complicates the management of the pulmonary disease often associated with prematurity. Indomethacin is effective in 80% to 90% of these infants,[9] but it is not likely to be effective in infants more than two weeks old.

Historically, chronic congestive heart failure has been managed with digoxin, a weak inotrope, and diuretics. When more aggressive treatment was needed, intravenous inotropes, such as dobutamine, were used. A newer approach to congestive heart failure management combines the use of after-load reducers (either vasodilator or angiotensin-converting enzyme inhibitors) with the use of diuretics, resulting in significant symptomatic improvement. Captopril, for example, is an angiotensin-converting enzyme inhibitor that acts directly on the arterial vascular bed to lower the peripheral vascular resistance and, in addition, dilates the venous vascular bed. The overall cardiovascular effect of such drugs is to increase cardiac output. Although not particularly easy to administer to young patients because it is available only in large tablets, and despite possible side effects, captopril has been a useful

Continued

addition in the management of congestive heart failure in children.

Amrinone is a bipyridine derivative that has both a positive inotropic effect and a peripheral vasodilatory effect. Thus, amrinone augments cardiac output by improving cardiac contractility and by decreasing systemic vascular resistance. Because it also dilates pulmonary arteries, it can decrease pulmonary arterial resistance in patients with primary or secondary pulmonary hypertension, thus decreasing or alleviating these patients' symptoms (exercise intolerance, shortness of breath). Unfortunately, it must be administered as a continuous intravenous infusion and may cause serious side effects.

Pediatric Cardiac Transplantation

Available surgical, therapeutic catheterization, and pharmacologic techniques are not adequate to treat some young patients' congenital or acquired cardiac abnormalities. For these children, cardiac transplantation is an option. Although cardiac transplantation was first performed in 1968, it was not until the early 1980s, with the development of the anti-rejection drug cyclosporine, that cardiac transplantation became a reasonable option and was no longer considered an experimental procedure.

In the past five years, 17 patients younger than 16 years old have undergone cardiac transplantation at the University of Minnesota.[10] Ten patients were less than seven years old, and the youngest survivor was six months old at the time of transplantation. Cardiomyopathy was the principal cardiac problem leading to transplantation: nine patients had dilated cardiomyopathy, three had familial cardiomyopathy, two had hypertrophic cardiomyopathy, and three had cardiomyopathy associated with inoperable congenital heart disease. Most were hospitalized in the intensive care unit and were receiving inotropic support and mechanical ventilation at the time of transplantation.

Fourteen of the 17 children (82%) survived transplantation and were discharged from the hospital. The three deaths resulted from right ventricular failure in patients with pre-transplant pulmonary hypertension. Post-operatively, each transplant recipient received "triple-drug immunosuppression," consisting of cyclosporine, azathioprine, and tapering doses of prednisone. This immunosuppressive regimen offers the best protection from organ rejection with the fewest side effects, and the majority of our transplant patients are rejection-free one year after transplantation. The avoidance of intravenous steroids permitted by this regimen decreases the incidence of serious infection after transplantation.

Hospitalizations or late complications have been uncommon in our pediatric cardiac transplant recipients. Three children have been hospitalized for sepsis: one in conjunction with appendicitis, one with sinusitis, and one with fungal pneumonia. Each recovered uneventfully with appropriate antimicrobial management. Two late deaths have occurred, both in adolescents who failed to comply with the immunosuppressive regimen. The other 12 transplant recipients are all free of their pre-transplant symptoms, and all are either full-time students or are employed full time. Two have participated in varsity athletics.

The lifestyle of the pediatric transplant recipient is clearly not normal; immunosuppressive medications must be taken daily, concerns about infection and rejection are always present, and continued medical follow-up is always necessary. Nonetheless, our young patients have shown that the procedure is successful and that a full and active childhood and adolescence can be achieved. We continue to recommend cardiac transplantation for children with cardiac disease unresponsive to all other medical and surgical options.

Summary

In many ways, the practice of pediatric cardiology has become more complicated over the past 10 years. No longer is caring for the young patient with congenital or acquired cardiac abnormalities limited to cardiac catheterization diagnosis and surgical treatment. Both the diagnostic and therapeutic options for these young patients have expanded enormously. Today, all of these options should be available in centers providing state-of-the-art care for pediatric patients with cardiac problems. MM

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The Board of Medical Practice and Its Disciplinary Process

Kent G. Harbison, J.D., and David P. Bunde, J.D.

The Board of Medical Practice is not exactly a household name; until recently, it was familiar only to health care professionals. Increased publicity about the board, however, is making its functions more well-known to the average citizen.

Members of the board probably believe they are often between a rock and a hard place. Periodic news reports criticize the board for not being tough enough on physicians who allegedly violate the Minnesota Medical Practices Act. The board is often painted publicly as doing "too little, too late" about problems among licensed physicians.

On the other hand, many physicians believe the board focuses too much on minor issues and allegations that do not truly represent any significant public health risk, while more fundamental disciplinary issues are either unaddressed or take months or years to resolve. According to a February 7, 1990, report of a task force that reviewed the board's disciplinary function, some physicians "have grown increasingly dissatisfied with and concerned about the board's process and its potential effect on individual physicians."

The one point both physicians and the public agree on is that the board's disciplinary process definitely takes too long. Indeed, the board itself probably agrees with this characterization, contending that it does not have enough investigative resources and staff to handle the hundreds of complaints it receives yearly. The complaints are likely to increase in light of recent publicity about the board and its functions. Recent news stories have already led more citizens to call the board offices and inquire whether a particular doctor has ever been disciplined. This development may only increase the tension that often exists between the board and many Minnesota physicians.

This article does not offer judgments; rather, it describes in a general way what the board's disciplinary function is and how the process works.

> "Physicians who are unprepared or assume the process will be easy and routine potentially place their careers in jeopardy."

The Board's Composition

The board is a state agency consisting of 16 members, all of whom are appointed by the governor. Each member serves a term of four years and may serve no more than eight consecutive years. Ten board members must be physicians licensed to practice in Minnesota; one member must be an osteopath; and five must be lay persons.

The board is supposed to represent all geographic areas of Minnesota as well as a variety of practice types. Some Minnesota physicians contend that the board is dominated by professionals from metropolitan areas with unique practice specialties that do not truly reflect the realities of medical practice throughout most of the state. According to the current board roster, its members include three family physicians; one ophthalmologist; two surgeons (one retired); one ear, nose and throat specialist; one pathologist; two psychiatrists; and one internist who practices in nephrology. Only two of the current board members practice in areas outside the Twin Cities metropolitan area, Duluth, or Rochester. Both are family practice physicians, one from Baudette and the other from Ivanhoe.

Virtually all complaints and disciplinary proceedings are filtered through two complaint review committees, each composed of two physicians and one lay board member.

Source of Complaints

The board is empowered by law to discipline physicians on the basis of 21 separate statutory categories of "misconduct." Some of these categories are quite precise (e.g., revocation of a physician's license by another state), and other categories are extremely broad and ambiguous (e.g., "engaging in unprofessional conduct"). In addition, the board can use at least three other catchall reasons to discipline a physician.

First, the board can discipline a physician for failing to self-report his or her own violation of one of the statutory categories. Second, physicians can be disciplined for failing to report violations they know other physicians have committed. Finally, with regard to a physician who is already subject to a pending disciplinary investigation, the board may discipline the same physician for not "cooperating" with the board's investigation.

During the past six years, the number of complaints filed with the board has increased significantly. Before 1985, complaints averaged 220 per year. By the end of 1989 the number had grown to more than 1,000 per year. Many physicians assume that the majority of complaints come from patients or members of the general public. It's true that less than half of the complaints come from other physicians, hospitals, pharmacies, insurance companies, and governmental agencies. Physicians, hospitals, and malpractice insurers are legally required to file certain complaints.

Although the board typically investigates most complaints, only a relatively small number result in disciplinary action against physicians. For example, of the 14,500 physicians licensed to practice in Minnesota during 1990, only 86 received some form of discipline during the same year.

During the past five years, the most common reasons for discipline have included inappropriate prescribing practices, chemical dependency or substance abuse, inappropriate conduct or contact with patients, and improper billing practices. Cases involving prescription and billing practices are increasingly based on information provided by other governmental agencies, such as the computerized data systems maintained by the Department of Human Services for Medicare patients.

The Investigative Process

Physicians should be aware that there is no apparent statute of limitations controlling the board's disciplinary function. This means that a physician theoretically (with some due process limitations) could be disciplined for conduct that occurred five, 10, or 15 years in the past. Since the disciplinary proceedings themselves often take 12 to 24 months, this factor is significant. Indeed, it is not unusual for a physician to be interviewed by a board investigator regarding activities that may have occurred two or three years ago and then not meet again with the complaint review committee for another nine to 12 months after the interview.

The investigative process grows directly out of a complaint lodged with the board. Most complaints are referred to the division of the attorney general's office that handles investigations and provides legal representation for the board. (The same division is also charged with providing the same services to 12 other licensing agencies. Currently, the attorney general has one chief investigator and 12 investigators to work with all of these agencies. The investigators receive an average of more than 30 complaints per month from all 12 licensing boards.)

A board staff person or an attorney general's investigator usually sends a written notice to the physician named in a complaint. The letter informs the physician that the complaint has been filed and that the investigator wants to review certain documents and interview the physician personally. This is the first critical stage of the disciplinary process. Physicians should always consult with someone experienced with the process or obtain legal representation during the interview or in preparation for it. Those who don't, almost always regret the omission.

> "The one point both physicians and the public agree on is that the board's disciplinary process takes too long."

Since the board has the power to subpoena almost any type of record, including patient records, a physician usually has little choice but to provide the documents and information requested at this stage. The investigators who interview the physicians simply gather information and forward it to the board in the form of a report.

Like almost all other information from the investigative process, this report is confidential and not available to the physician. It summarizes the physician's statements made during the interview and the records inspected during the investigation. In addition, it contains information obtained from other potential witnesses, including the complaining party, whose name is not generally disclosed to the physician. The special assistant attorney general assigned to represent the board also reviews the report. Sometimes the board will use a medical consultant to interview the physician or review records. The consultant's report is available to the physician.

Complaint Review Committee

The next step in the process is a conference with the complaint review committee. The committee notifies the physician that he or she is required to attend a conference, which is usually held at least three or four weeks later. These conferences are rarely rescheduled, regardless of the physician's own scheduling conflicts. In one instance, nearly all of the physicians in a particular clinic were required to attend a week-day conference to discuss allegations regarding a particular policy of the clinic. The committee did not permit the clinic to send only one or two representatives to the conference.

The physician is permitted to be represented at the conference by an attorney, but almost no one else may attend. These conferences are also confidential.

The primary purpose of the conference is to enable the committee to meet face to face with the physician and his or her counsel and obtain further details regarding the complaint. In most cases, the conferences last no more than an hour. Two or three committee members, a board attorney, and several administrative staff persons attend. There are no other witnesses, and the physician is not permitted to cross-examine the complaining party or any other person. The conferences are tape recorded in case a transcript is needed for a subsequent administrative contested case trial.

The vast majority of disciplinary proceedings terminate at the complaint committee conference stage. After the questioning is completed, the committee excuses the physician and attorney while it deliberates privately. After these deliberations, the committee calls the physician and his or her attorney back into the conference room and announces its decision. Usually the decision results in an immediate dismissal of the complaint, a continuation of the case for another six to 12 months pending remedial measures imposed by the committee, or some form of disciplinary action that may require the physician to pass certain medical school refresher courses, obtain counseling, modify office practices, or meet some other requirement. The committee may also impose a penalty up to $10,000. In some cases, the committee also may recommend suspension or revocation of the physician's license.

The physician has the choice to accept or not accept the committee's proposal. Even if the physician accepts, the committee's proposal must be formally ratified by the full board at its next meeting. Committee recommendations are almost always adopted by the full board. If the proposal is not accepted by the physician, usually the only choice is to proceed with a full contested case trial. Since most disciplinary cases end at the complaint review committee stage, these administrative trials are rare.

Administrative Contested Case Trials

The administrative hearings are conducted by a state administrative law judge and are quite similar to regular judicial trials. This is the first time the physician has access to the many reports and records that had previously been confidential. The physician also has an opportunity to present witnesses and evidence and to cross-examine the witnesses offered by the committee. The case is presented by an attorney general's lawyer.

One reason the administrative hearings are relatively uncommon is that the administrative law judge's final decision is not binding on the full board. The judge is permitted only to make a general recommendation to the board, with findings of fact and conclusions of law based on the evidence submitted at the hearing. The board is free to reach its own decision as to whether discipline should be imposed and, if so, in what form. The board's final decision must be based on the evidence and must be reasonably related to the conduct in question.

A physician who is dissatisfied with the board decision has the right to appeal to the Minnesota Court of Appeals. In most cases, the appeals court will not set aside the board's decisions so long as they are reasonably related to the evidence and serve the board's basic purpose to protect the public. Minnesota courts have held that the board's purpose is not to punish individual physicians, but to impose discipline designed to protect patients or the public in general. According to board records, approximately 80 percent of all disciplinary complaints are dismissed, either at an early stage or at the conference stage.

Publication of Disciplinary Actions

Once a disciplinary action is taken against a physician, it becomes a matter of public record. The Board of Medical Practice is unique among all health licensing boards in that it is required by law to publish all disciplinary decisions. This means, essentially, that the board must send out news releases announcing its disciplinary decisions. (There are some exceptions to the affirmative publication requirement, including violations involving certain kinds of impairments and addictions.) Other health licensing boards' disciplinary decisions are also public record, but they typically remain in the offices of the licensing agencies. Generally, this means that only persons who take the initiative to review the files will learn of these other boards' decisions.

Although a relatively small number of Minnesota physicians are disciplined by the Board of Medical Practice each year, the stakes are obviously high enough to compel any physician who receives notice of a complaint to take it seriously and be well-prepared for the process. Physicians who are unprepared or assume the process will be easy and routine potentially place their careers in jeopardy. MM

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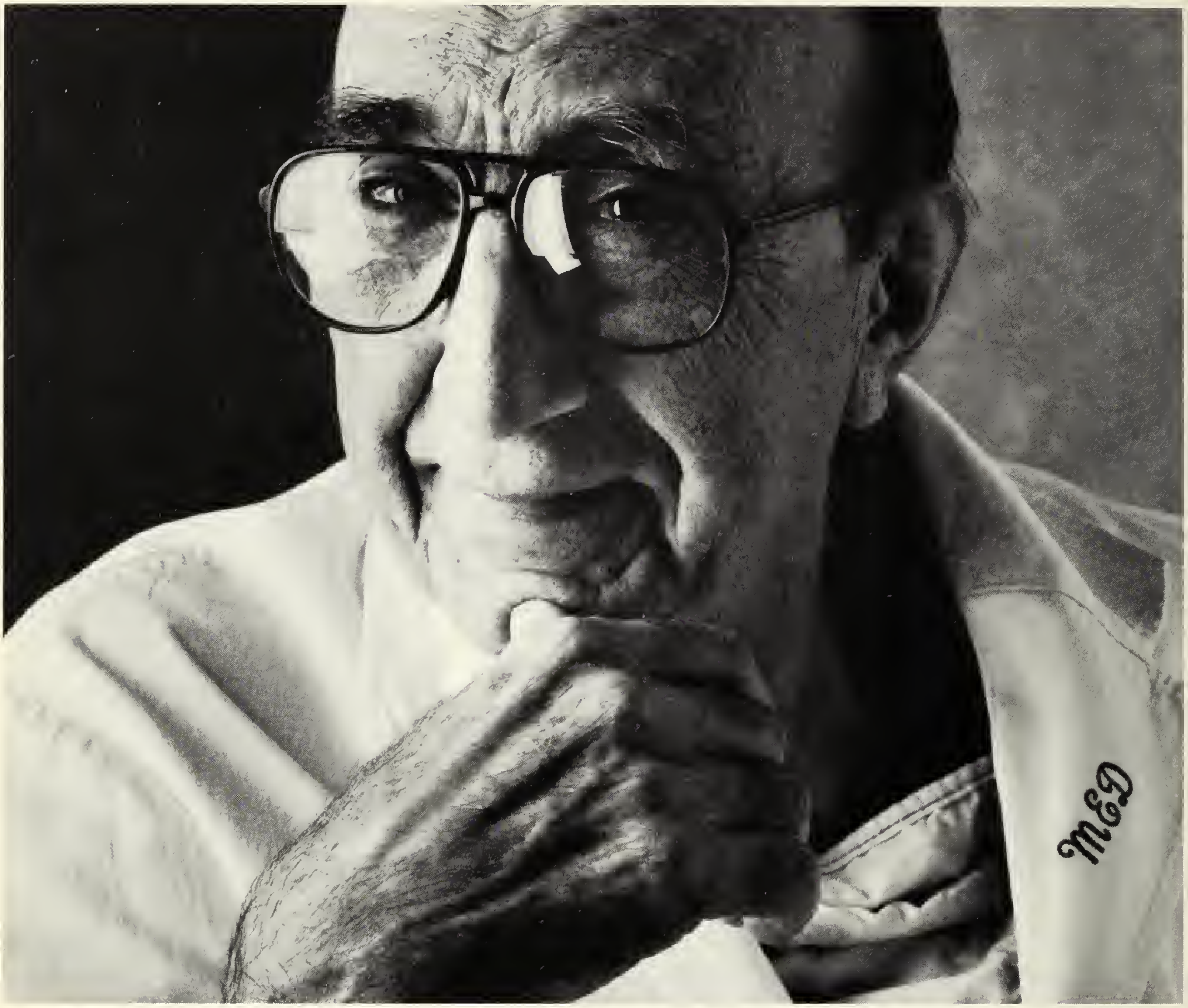

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The Physician as Organizational Leader

Daniel K. Zismer, Ph.D., Davis D. Fansler, and Samuel Porter, M.D.

Payers, buyers, and competitive pressures have prompted significant innovation in health service delivery during the last decade, and that momentum is likely to accelerate. The business of medicine has become increasingly complex. As a result, physicians are aspiring to organizational leadership in clinics, managed care delivery systems, and hospitals. Bridging the gap between the business and the practice of medicine is an important challenge for physicians in the 1990s and beyond.

The merits of physicians as organizational leaders are increasingly being recognized. As physicians assume more leadership, they will need the skills to cooperate with nonphysician leaders in controlling costs and managing quality.

Leadership's Framework

What follows is a framework from which a number of successful leaders operate. The framework requires developing a vision for analyzing the organization, creating and communicating a strong mission, defining and exemplifying values, measuring and pursuing quality, utilizing assets to their potential, and developing business relationships.

Vision

The ability to provide an organization with a vision has been referred to as "the ability to see the invisible." Crystal balls are in short supply, and in health care, as in most professions and businesses, there are seldom clear answers. Medicine is a tradition-bound profession and is as much art as science. Breaks in tradition typically come painfully. Leaders with a "vision" are willing to identify unproductive traditions and make productive changes—sometimes in the face of consternation and ridicule from colleagues.

Recent examples of innovative changes that have taken place in the Midwest include partnerships between provider and buyer, such as the Mayo-John Deere family care clinic joint venture in Moline, Illinois, and the formation of physician-hospital organizations to meet rural primary health care needs in northern Iowa. Good leaders will recognize the inadequacy of existing organizational configurations and be willing to explore options that depart from the norm.

> "Successful organizations know why they're in business and are able to articulate it succinctly."

A good leader builds vision by doing the following:

- looking outside the profession to see how other professions have managed change in industry and in the marketplace;
- striving to identify and apply methods other industries and professions use to solve problems and meet challenges;
- examining how free markets operate, i.e., how the laws of supply and demand typically interact in freely competitive environments; and
- recognizing unproductive processes and methods within the leader's own profession.

Although following these steps won't assure success, an unwillingness to learn from the "outside" will surely prevent it.

Mission

Successful organizations know why they're in business and are able to articulate it succinctly. The successful leader will require an organization to define its mission, clearly stating the organization's goals and objectives, and he or she will then assure that the mission is communicated to everyone in the organization.

Good leaders are also able to define an organization's character. By way of example, IBM has characterized itself as being in the information business as opposed to the computer business. Given the current state of technology, computers are the preferred vehicle, but years ago it was the typewriter. Relating that example to health care, patients don't seek surgery, diagnostic procedures, and medications. They look for prevention of illness, relief from suffering and pain, restoration of function, and a sense of well-being. Leaders help to define, clarify, and focus the mission of their organizations. What organizations manufacture (e.g., a unit of patient service) is not necessarily what they are.

Values

Defining an organization's values is the process of clarifying what is important to the organization (e.g., people versus profit, the long term versus the short term, and outcome versus process). Values serve as a critical foundation for effective decision making—a successful leader makes decisions that reflect the organization's values and mission statement. In this context, the phrase "to lead by example" has merit for any organization. Following consistent ethical and managerial patterns has a far-reaching effect. The clearer the patterns, the stronger the likelihood that ripples will extend to the edge of the pond.

By necessity, many medical organizations have incorporated market-driven values into organizational behavior. More often today, organizations stress the value of satisfying "customer needs" and meeting demands for both quality and efficiency. Physician leaders will challenge their organizations to think broadly and will incorporate such important values. The medical group practice of the future will see itself not as a provider of specific technical services to groups of people with defined clinical needs, but, rather, as a functioning component of an integrated delivery system whose overall responsibility extends beyond providing physicians with a personally and professionally rewarding place to work.

Quality

"Quality" is a much ballyhooed concept—and for good reason. Customers seek quality in competitive markets. While health care operates far from a purely competitive market, it is moving closer to that. Health care organizations are beginning to define and to measure quality by viewing it from the users' rather than the providers' perspective. Successful physician leaders will need to adopt an encompassing definition of quality for their organizations, and will then need to plan an approach for achieving and maintaining it.

Asset Stewardship

All organizations have limited assets, regardless of size. Assets are broadly defined as an organization's financial, human, and organizational potential. Prudent application of assets to further an organization's mission requires a team effort. While successful organizational leaders may guide the process, they do not always call the plays. Effective leaders will recognize this and establish an environment that encourages broad participation in decision making.

Physician leaders will need to encourage colleagues to be mindful of the financial risks associated with the organization's growth and expansion in competitive markets. The successful leader will challenge the group to think beyond revenue or market "capture" as the sole driving force behind strategic business planning and will facilitate decision making with more comprehensive financial goals in mind. Once-lucrative business opportunities have become financial drains as buyers and regulators have changed the economics of health service delivery. For example, a physician-owned, free-standing surgery center that may have proved profitable seven years ago may not survive in today's market.

> "Once-lucrative business opportunities have become financial drains as buyers and regulators have changed the economics of health service delivery."

Relationships

All organizations must look beyond their own walls to conduct business. They both influence and depend upon an intricate matrix of relationships. Health care organizations interact with patients, vendors, third-party payers, other providers, self-insured buyers, legislators, and community leaders. The successful leader will understand the importance of these relationships and will respect both the direct and indirect effects each has on the organization. Physicians who are adept at managing relationships will more likely emerge as leaders.

Summary

The physician manager is becoming more common. Given the need to bridge the gap between the business and the practice of medicine and given the transformations taking place in health care, physicians will likely play an increasingly important role as leaders in clinics, hospitals, HMOs, and other health care organizations. As yet, a job description for a "leader" remains elusive. However, understanding the framework described here may help build the proper foundation for successful physician leaders. MM

Daniel Zismer and Davis Fansler are cofounders and principals of Partners Medical Management, Ltd., a Minneapolis-based consulting firm specializing in ambulatory care management and hospital-physician ventures.

Samuel Porter is vice president of medical staff affairs at St. Joseph Mercy Hospital in Mason City, Iowa, and associate vice president of professional affairs for the Sisters of Mercy Health Corporation.

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AIR FORCE

State Docs Share Growing Concerns

Thomas A. Stolee, M.D.

Certainly the most pleasurable aspect of being MMA president is the opportunity to travel around the state talking and listening to physicians and other members of the public. I enjoy this type of interchange immensely. I also learn a lot from it and would like to share some observations. Generally, physicians are outspoken, yet thoughtful. Their opinions differ, but whatever the proposed solution, they universally share a concern for their patients' welfare.

First, I found intense frustration out there. Doctors are disenchanted about the growing number of hoops they have to jump through to care for their patients. The multiplicity of insurance forms, the preadmission certifications, the Medicare and Medicaid hassles, and the ever-increasing mounds of paperwork have created frustration, hostility, and occasionally despair. Many doctors say they would prefer national health insurance to the current situation. The clear message is that something must be done. Whether it's changing to a one-payer system, instigating total insurance reform, or some other kind of action, a solution to this complex, thorny problem must be found.

Many doctors are concerned about overuse of facilities. Some feel that a deductible and copay should apply to Medicaid to keep people from inappropriately using emergency rooms and other facilities. Other doctors are absolutely opposed to this solution because it would discriminate against the poor and discourage people from seeking care for real problems.

The public is angry at what it considers unnecessary duplication of facilities in the name of competition. I discussed this briefly in my November column, but I did not then realize how intensely many people feel about the issue. The cost of health care is the No. 1 item on the agenda among policymakers throughout the state. They listen attentively to the reasons for rising costs, such as technological advances, the aging population, faulty payment mechanisms, defensive medicine, and increasing supply and personnel costs, but then they point out that two or more local clinics or hospitals are simply duplicating facilities in order to "outgun" the other. Their point is very difficult to argue.

"Physicians universally share a concern for their patients' welfare."

Everybody is in favor of universal access to care, but in this state of 10,000 doctors there appear to be 10,000 different opinions on how to structure and pay for the system. Again, this is a complex problem with no easy solution and one that is closely tied to the larger problem of health care costs.

I have been gratified to observe that doctors generally are more concerned about public health issues than "pocketbook" issues. Smoking is an issue that raises every physician audience to a fever pitch. Most physicians I have spoken with feel that we should raise the tax on tobacco products to the level present in Canada and then fund much of our health care access legislation with those tax dollars. I agree, although I don't believe it would work without federal legislation. There is already black-market smuggling of cigarettes into Canada. To enforce laws against movement of tobacco products into Minnesota from Wisconsin, Iowa, or the Dakotas would be tough.

Sexually transmitted diseases are rampant, and we simply have to get the message through to kids in grade school and junior high by using coalitions of educators, physicians, and the media. I have found that we are not doing a good job of this in many areas of the state.

I could go on and on and fill this whole journal with issues of concern to physicians, such as mandatory HIV testing and the Minnesota Board of Medical Practice's prescribing initiatives. Whatever your professional concerns, I want you all to know that you're being heard and that I appreciate your input. Please feel free to write to me about your concerns; I promise to read every letter. We are a disparate group and not all of us will agree on all policy issues. However, policy is decided by our House of Delegates and Board of Trustees only after heavy input, thoughtful consideration, and a conviction that *what's* right is far more important than *who's* right.

In conclusion, I wish all of you and your loved ones a wonderful holiday season. Let us share this time of the year reflecting on our many blessings—our privilege of being doctors, our families, our colleagues, and our friends. MM

People and Places Making Medical News

People

Select Care VP

Select Care, a Twin Cities-based preferred provider organization, has announced that Marvin S. Segal, M.D., has joined the organization as vice president and medical director. Segal was formerly vice president of medical affairs for Metropolitan-Mount Sinai Medical Center and Health One, West Region.

Health Promotion Awards

The Minnesota Department of Health has given Awards for Excellence in Health Promotion to two individuals, two local health agencies, and two private-sector groups for their efforts in promoting better health in Minnesota.

Individual awards were presented to Leonard Schuman, M.D., University of Minnesota School of Public Health, and William Manahan, M.D., a family physician from Mapleton, Minnesota. Schuman received the Pioneer Award, which recognizes lifetime achievement in health promotion and education. He was one of 10 scientists who served on the U.S. Surgeon General's Advisory Committee on Smoking and Health during the early '60s. That group produced the first surgeon general's report on smoking and health in 1964.

Manahan received the Commissioner's Award, which recognizes individuals who have made an outstanding contribution to health promotion. Manahan has been a key participant in the ACT 2000 project, which mobilized community leaders in the Mankato area to set health and wellness goals for the year 2000. He has played a leadership role in such groups as the Mankato Heart Health Program, the District 77 Drug Abuse Task Force, and the Rape Crisis Center Advisory Committee.

The organizations awarded by the Department of Health are Women in Nature, Blueprints for Health, Rock Healthy, and Fry Now—Pay Later.

ASTRO Gold Medal Award

Seymour H. Levitt, M.D., of Minneapolis, has received the American Society for Therapeutic Radiology and Oncology's highest honor, the gold medal award. The announcement was made during the society's annual meeting November 4-8 in Washington, D.C.

Levitt is professor, head, and clinical chief of the Department of Therapeutic Radiology at the University of Minnesota. He is also chief of Therapeutic Radiology Services at the University of Minnesota Hospitals. He has published more than 220 articles on radiation oncology.

St. Paul-Ramsey Chief

David A. Swanson, M.D., has been named chief of the Department of Medical Imaging at St. Paul-Ramsey Medical Center. He has been with Ramsey since July 1987 and has also been an assistant professor in the Department of Radiology at the University of Minnesota Medical School. Before joining Ramsey, Swanson was a staff radiologist at Metropolitan Medical Center and in private practice in the Twin Cities.

Riverside VP

Richard Howard has been named vice president of marketing and business development for Riverside Medical Center. He has been with Riverside and the Fairview system since 1979 and was previously vice president of ancillary and professional services.

Places

Second Healthiest State

Hawaii has surpassed Minnesota as the healthiest state in the nation, according to the latest study by Northwestern National Life Insurance Co. Minnesota, which is now ranked No. 2, has not become less healthy, but Hawaii has improved access to health care, increased public spending on health, and lowered its infectious disease rates, said Dave Ordos, NWNL's manager of research.

The study compiles 17 components that measure disease, lifestyle, access to health care, disability, and mortality. This year, NWNL added a separate ranking for environmental factors, including air pollution, toxic chemical release, and drinking-water safety. When these factors are given a 10 percent overall impact on the ratings, Minnesota drops from second to third place.

Funds for U of M–Swedish Exchange

A $1 million grant to fund a biomedical scientist exchange program between the University of Minnesota Medical School and the Karolinska Institute of Stockholm, Sweden, was announced October 25 by Curtis L. Carlson and David M. Brown, dean of the university's medical school.

The grant, which is from the Wenner-Gren Center Foundation of Stockholm, will fund the

Wenner-Gren Visiting Professorship at the University of Minnesota. It matches the $1 million that was donated by the Permanent University Fund and Carlson, chairman of Carlson Companies, Inc., and president of the Curtis L. Carlson Foundation, to establish the program. Carlson announced the grant at a meeting of the Royal Round Table of the Swedish Council of America.

Plans were first developed in 1988 for the exchange with Karolinska, Sweden's only higher education institution specializing in the training of health care professionals and home of a number of Nobel laureates in medicine.

Robert Elde, professor of cell biology and neuroanatomy at the University of Minnesota, was the first Minnesota scholar to go to Karolinska. Elde, who currently is in Sweden at the institute, is studying the organization of molecules involved in opioid neurotransmission.

U of M Might Buy Red Wing Medical Center

The University of Minnesota might buy its first off-campus clinic next year—the Interstate Medical Center in Red Wing. If the Board of Regents approves the $9 million purchase, hospital officials say they will begin cancer research programs at the center as part of an effort to expand the hospital's role in Greater Minnesota.

The hospital's board of directors has approved the purchase, and the Board of Regents is expected to discuss the purchase at its December meeting. The deal is being made out of mutual desire, not financial necessity, said officials at the university and the Red Wing clinic.

Job Cuts at Mayo

The Mayo Medical Center in Rochester plans to eliminate 250 jobs by 1993 in an effort to cut costs, said a Mayo official October 25. Mayo plans to eliminate jobs through attrition (such as retirement and resignation) and transfers, said Sharon Dunemann, head of personnel resources. The jobs will primarily be support staff positions and some management and professional positions; no doctors will lose their jobs, she said. The intent is to cut duplication of services between Mayo Clinic and its two hospitals, Saint Marys and Methodist, and to allocate resources more efficiently.

Medical Waste Plant for Midway

The St. Paul City Council issued a license in September to BFI Medical Waste Systems of Minnesota Inc. to start a medical-waste treatment plant in St. Paul's Midway area. The plant will be the first major facility in Minnesota to use steam to sterilize potentially infectious needles, linens, and other materials, rather than burning them. After sterilization, the company will shred the waste and dispose of it in a landfill in Inver Grove Heights.

BFI uses steam because of concern about pollution from hospital incinerators. City Council members said that, although they aren't excited about the business, they expect the plant to be safe. They have imposed 16 conditions on the company's license, including a ban on sterilization of body tissue and chemotherapeutic wastes.

No Smoking in Metrodome

The Metropolitan Sports Facilities Commission voted unanimously October 23 to ban smoking in the Metrodome. Starting with the Twins' home opener in April, smoking will only be allowed in the areas outside the revolving doors by the turnstiles. Television monitors will be set up for smokers to watch the games, and the commission will consider enclosing and heating the areas at a later date.

The intent is to protect nonsmokers from secondhand smoke while still providing an area for smokers to go without exiting the building, said Bill Lester, the commission's executive director.

Socioeconomics

Governor Unveils Health Care Proposal

Gov. Arne Carlson, the Minnesota Department of Health, and a coalition of legislators unveiled their health care reform proposal November 7. The plan includes subsidized insurance premiums for children and poor people through an increase in the state's cigarette tax. The plan would eventually subsidize health insurance premiums for up to 177,000 people but would initially try to enroll the state's 70,000 uninsured children.

The plan proposes financial incentives for low-income families to purchase insurance in the private sector. However, low-income people would be required to spend 3 percent of their gross income on health insurance before subsidies take effect—a requirement DFLers criticized as the equivalent of an income tax increase for people who cannot afford it.

Carlson's plan would place a $75 million-per-year cap on spending. Carlson proposed an $.08 increase in cigarette taxes starting July 1, 1992, which would raise an estimated $30.4 million and would cover all costs incurred in fiscal 1993. He proposed an additional $.04 increase in subsequent years until the cap is reached.

DFL legislators who pushed for a health care access bill last spring denounced certain aspects of the plan but praised Carlson for making his proposal and said they are eager to start negotiations toward a compromise bill.

National Health Care Proposals

A coalition including Minneapolis-based Dayton Hudson and other corporations, labor unions, and consumer groups announced a plan for national health care reform November 11. The proposal calls for all companies to provide health insurance or else pay a 7 percent payroll tax for a public program that would cover their employees. Workers would pay 1.75 percent of their salaries for the health insurance. Additionally, all companies would contribute 0.5 percent of payroll and all workers 0.5 percent of their pay to fund health insurance for the unemployed.

The plan, developed by the National Leadership Coalition for Health Care Reform, also proposes a national health care budget with cost controls on physician and hospital payments.

Meanwhile, Minnesota Sen. David Durenberger announced his "Third Course" proposal for health care reform, for which he is preparing legislation. His seven-point agenda, which calls for repairing the system rather than replacing it, proposes 1) small-group insurance reform, 2) health tax equity, 3) medical quality reform, 4) medical technology reform, 5) Medicare restructuring, 6) Medicaid restructuring, and 7) reaffirmation of healthy values.

It's Medica for St. Paul Workers

Ending St. Paul's 30-year affiliation with Group Health, Mayor Jim Scheibel chose Medica over Group Health for the city's health plan. Starting in 1992, St. Paul employees will no longer be able to choose between the two carriers, and about 2,000 Group Health enrollees and their families will have to switch to Medica physicians.

Medica took a gamble and told St. Paul it wanted either all 3,500 of the city's employees or none. The city's committee on health care asked for bids from both plans, and Medica's $10 million bid was about $460,000 less than Group Health's bid in the closest comparisons, said Ron Guilfoile, the city's director of risk management and employee benefits.

Total carrier replacement, where a carrier succeeds in eliminating competitors from a workplace, is increasing in the Twin Cities, raising doubts that competition can control health care costs and promote quality.

MedCenters to Study Health Costs

MedCenters Health Plan is initiating a research project to identify factors that are causing health care costs to rise in Minnesota, said David Knutson, manager of planning and development.

The three-year study will be conducted in cooperation with the University of Minnesota's Division of Health Services Research and Policy. The project will be funded in part from a $216,580 Bush Foundation grant awarded to the university earlier this month.

The goals of the study are to assist the state Legislature in the development of a cost-effective health care program for the uninsured and to establish a system to monitor health care costs and access to health services.

The research project will utilize claims data from MedCenters, which introduced a state-of-the-art ERISCO claims processing system in early 1990. The system makes it possible for the health plan to track detailed information on all members hospitalized, the care they received, and the costs associated with the specific procedures and services.

Durenberger No. 1 Choice for Medical PACs

Minnesota Sen. David Durenberger received $496,462 during the 1980s from medical industry lobbies representing doctors, hospitals, and other health care interests—more than any other U.S. senator during that period. Common Cause, a national group that supports public financing of campaigns and spending limits for candidates, reported the information, alleging that the money made Durenberger the handmaiden of big medicine and was a major factor in Congress' failure to reform the U.S. health care system. Durenberger received about $80,000 more than any other senator.

Durenberger has been chairman of the Finance Committee's Health Subcommittee and is currently on the Senate Labor and Human Resources Committee, which oversees public health programs and health issues involving the elderly. His chief aide, Rick Evans, defended Durenberger, saying the health care issue has only been a leading national concern in the past year, yet Durenberger has pushed for a variety of reforms for 13 years.

Medical Research

Leukemia Patients at High Risk for Later Cancer

Children successfully treated for acute lymphoblastic leukemia have a high risk of developing a second cancer of any type, according to a report in the November 7 issue of *The New England Journal of Medicine*. While the researchers stressed that the number of children in the study who developed secondary cancer was small, they said leukemia patients contracted cancer at about seven times the rate expected for children their age who never had leukemia.

Leukemia survivors also had a 22 times greater chance of developing secondary brain tumors, possibly as a result of the initial leukemia treatment. Until recently, radiation to the head was the norm in leukemia treatment.

Doctors said the findings should not be considered a condemnation of leukemia therapy, which has successfully cured children who would otherwise have died from the disease. Only 43 of the 9,720 people in the study acquired secondary tumors of the brain and other organs during the 16-year period covered.

Joseph Neglia, M.D., assistant professor of pediatrics at the University of Minnesota, wrote the report with a team of researchers from various institutions.

Pancreas Transplants Help Diabetics Process Food

Pancreas transplantation can normalize how people with diabetes mellitus process the food they eat, according to a Mayo Clinic study published in the October 31 issue of *The New England Journal of Medicine*. Study data demonstrate that the technique currently used in pancreas transplantation fully normalizes carbohydrate metabolism in diabetics, offering hope that the transplant may assist in the reduction or prevention of chronic diabetic complications.

Patients with diabetes sometimes develop kidney disease and require kidney transplants. At the University of Minnesota, these patients now routinely receive a combined pancreas-kidney transplant, which can potentially restore kidney function and the balance of insulin and other hormones released by the pancreas to regulate blood sugar. Mayo researchers collaborated with colleagues at the University of Minnesota to study diabetic patients who had undergone pancreas-kidney transplants and compared them with control groups of nondiabetic patients and nondiabetic patients who had undergone only kidney transplants.

Although the procedure proved successful, researchers stressed that further study is necessary. "Because we are still uncertain whether blood sugar concentration is the only factor responsible for diabetic complications, we need to examine whether pancreas transplantation affects other important variables," said Mayo Clinic endocrinologist Robert Rizza, M.D., the study's principal investigator.

Leech Saliva as Anticoagulant

Mayo Clinic cardiologist James Chesebro, M.D., has developed a drug from European leech saliva that may reduce the number of heart attacks triggered by blood clots in coronary arteries. The drug, hirudin, which is being produced synthetically in the laboratory, halts the clotting process and may eventually reduce by 50 percent the number of balloon angioplasty and coronary bypass procedures in the United States.

Chesebro has found hirudin to be far more effective at preventing blood clots than heparin. Researchers at Mayo and eight other institutions must conduct human studies before the drug's full potential is known, said Chesebro.

European leeches produce natural anticoagulants that keep their hosts' blood flowing.

Vaccinations Lagging

Almost half of Minnesota's infants and toddlers are not properly immunized against major childhood diseases such as measles, mumps, and rubella, according to a Minnesota Department of Health survey.

All children are required to be vaccinated by the time they start kindergarten, said Minnesota Health Commissioner Marlene Marschall, but many are not protected during the vulnerable preschool years. In recent years, Minnesota has seen outbreaks in some of these diseases, and officials are concerned about possible future outbreaks. Last year, 462 confirmed and probable cases of measles were recorded in Minnesota, and three infants died, all in St. Paul.

AIDS Update

MDH Recommendations

State Health Commissioner Marlene E. Marschall issued recommendations October 23 designed to lower the risk of contracting the human immunodeficiency virus in the health care setting.

The recommendations do not call for mandatory testing of health care workers, but instead emphasize voluntary testing of health care workers who perform invasive or exposure-prone procedures.

"Many people have expressed support for mandatory testing in the belief that we can completely eliminate all risk of infection," said Marschall. "Unfortunately, there is no strategy that will reduce the risk to zero, and that includes mandatory testing." She said voluntary testing is likely to be just as effective as mandatory testing in reducing risk and protecting the patient.

The report, which included 23 recommendations, also proposed that physicians be required to inform state agencies if they are infected with the AIDS virus. It also suggested that the Health Department be given broader authority to investigate infection-control problems at health care facilities and that physicians be required to report such problems.

State Health Care Worker Infected

A lab technician has become the first Minnesota health care worker to contract HIV infection while on the job, according to State Epidemiologist Michael Osterholm. An investigation revealed conclusive evidence that the worker was infected in April when he accidentally stuck himself with a needle while drawing blood from an AIDS patient in Hennepin County, said Osterholm.

Citing the state Data Practices Act, Osterholm refused to provide any information about the man. He said the technician poses no risk to patients based on the type of work he does.

State AIDS Cases Surpass 1,000

Minnesota has surpassed the 1,000 mark of recorded AIDS cases, said state health officials October 10.

So far, at least 654 people have died of AIDS in the state.

Officials predict Minnesota will see about 220 cases in 1991—a new high. Minnesota had 194 cases last year. Michael Osterholm, state epidemiologist, said he expects the number of new cases to rise for at least one more year, but he hopes the number will level off by the mid-1990s.

Minnesota's AIDS cases represent less than 1 percent of the 191,601 cases reported in the United States since the epidemic began.

New AIDS Drugs

Two possible AIDS drugs will be tested at the University of Minnesota. The first, hypericin, is a folk medicine derived from the St. John's wort plant. Folklore claimed it could cure depression and heal infected wounds. Henry Balfour, M.D., of the University of Minnesota's AIDS clinical trials unit, said the drug's effect on AIDS in a test tube was intriguing; it tends to keep the AIDS virus from entering uninfected human cells and it inhibits reproduction of infected cells. The drug's effectiveness will be tested with about 10 AIDS patients at the university.

In addition, about 12 patients will receive nevirapine, a drug from the tranquilizer family. The two drugs are not expected to cure AIDS, but they could be valuable in prolonging the lives of AIDS patients. MM

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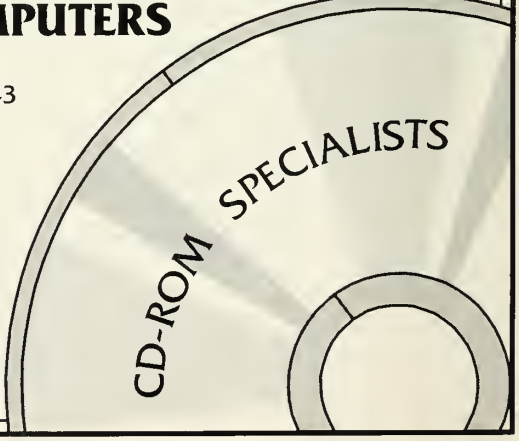

A Calendar of Continuing Medical Education Courses

Provided through the MMA Medical Education Subcommittee on CME Resources. For assistance with scheduling meetings or for information on future medical meetings and CME courses, please contact the MMA office: 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414; 612/378-1875. Information for each entry is arranged by date; name of program; primary sponsor; location; contact person.

DECEMBER 1991

Dec. 5 **Tumor Markers and Screening** Group Health Inc.; Minneapolis Metrodome Hilton, Minneapolis, MN. CONTACT: Debbie Bladine, Group Health Inc., 2829 University Avenue SE, Minneapolis, MN 55414; 612/623-8479.

Dec. 5-7 **Annual Cardiopulmonary Medicine Update** St. Paul-Ramsey Medical Center; Holiday Inn East, St. Paul, MN. CONTACT: Bonnie Young, 640 Jackson Street, St. Paul, MN 55101; 612/221-3992.

Dec. 7 **Controversies in Cardiology** HealthEast; Scheffer Center, St. Joseph's Hospital, St. Paul, MN. CONTACT: Lisa Harrell, 1700 University Avenue, St. Paul, MN 55104; 612/641-5112.

Dec. 7 **Minnesota Obstetrical and Gynecological Society Scientific Program** Minnesota Obstetrical and Gynecological Society; St. Paul Hotel, St. Paul, MN. CONTACT: Susan Thompson, Minnesota Ob/Gyn Society, Department of Ob/Gyn, 5000 West 39th Street, Minneapolis, MN 55416; 612/924-1802.

JANUARY 1992

Jan. 6-10 **Team Management of Diabetes Mellitus** International Diabetes Center; International Diabetes Center, Minneapolis, MN. CONTACT: Cindy Poppitz, International Diabetes Center, 5000 West 39th Street, Minneapolis, MN 55416; 612/927-3393.

Jan. 11 **Teen Program Seminar (Pediatric and Mental Health Topics)** Group Health Inc.; Minneapolis Metrodome Hilton, Minneapolis, MN. CONTACT: Debbie Bladine, Group Health Inc., 2829 University Avenue SE, Minneapolis, MN 55414; 612/623-8479.

Jan. 16 **Promoting Fitness** Group Health Inc.; Minneapolis Metrodome Hilton, Minneapolis, MN. CONTACT: Debbie Bladine, Group Health Inc., 2829 University Avenue SE, Minneapolis, MN 55414; 612/623-8479.

Jan. 16-31 **South Pacific Medical Education Seminar** INTRAV, North Central Medical Conference; Fiji, New Zealand, Australia, Great Barrier Reef. CONTACT: North Central Medical Conference, 1845 Hampshire Avenue #200, St. Paul, MN 55116.

Jan. 18 **Rehabilitation** Group Health Inc.; Minneapolis Metrodome Hilton, Minneapolis, MN. CONTACT: Debbie Bladine, Group Health Inc., 2829 University Avenue SE, Minneapolis, MN 55414; 612/623-8479.

Jan. 25-Feb. 4 **Trans-Panama Canal Medical Education Seminar** INTRAV, North Central Medical Conference; Acapulco, Costa Rica, Curacao, St. Croix, St. Thomas, and San Juan. CONTACT: North Central Medical Conference, 1845 Hampshire Avenue #200, St. Paul, MN 55116.

Jan. 27-31 **Team Management of Diabetes Mellitus** International Diabetes Center; International Diabetes Center, Minneapolis, MN. CONTACT: Cindy Poppitz, International Diabetes Center, 5000 West 39th Street, Minneapolis, MN 55416; 612/927-3393.

FEBRUARY 1992

Feb. 5-12 **HealthEast Winter Medical Seminar** HealthEast; Hawaii. CONTACT: Lisa Harrell, 1700 University Avenue, St. Paul, MN 55104; 612/641-5112.

Feb. 6 **Kidney Stones—Treatment, Prevention** Group Health Inc.; Minneapolis Metrodome Hilton, Minneapolis, MN. CONTACT: Debbie Bladine, Group Health Inc., 2829 University Avenue SE, Minneapolis, MN 55414; 612/623-8479.

Feb. 6-9 **Prostatic Diseases: Current Concepts in Diagnosis and Management** Mayo Clinic/Mayo Foundation; The Breakers, Palm Beach, FL. CONTACT: Rita Kunz or Jan Fleck, Mayo Clinic, 200 1st Street SW, Rochester, MN 55905; 507/284-2509 or 800/323-2688.

Feb. 7 **Domestic Violence: Assessment and Plan for Physician Action** St. Paul-Ramsey Medical Center; Holiday Inn East, St. Paul, MN. CONTACT: Bonnie Young, 640 Jackson Street, St. Paul, MN 55101; 612/221-3992.

Feb. 14 **Burn Care Today** St. Paul-Ramsey Medical Center; Holiday Inn East, St. Paul, MN. CONTACT: Bonnie Young, 640 Jackson Street, St. Paul, MN 55101; 612/221-3992.

Feb. 15-22 **HealthEast Winter Medical Seminar** HealthEast; Steamboat Springs, CO. CONTACT: Lisa Harrell, 1700 University Avenue, St. Paul, MN 55104; 612/641-5112.

Feb. 20 **Newer Antibiotics in Our Basic Armamentarium** Group Health Inc.; Minneapolis Metrodome Hilton, Minneapolis, MN. CONTACT: Debbie Bladine, Group Health Inc., 2829 University Avenue SE, Minneapolis, MN 55414; 612/623-8479.

Feb. 21-22 **Sexual Attitude Reassessment Seminars (SAR)** Program in Human Sexuality; Holiday Inn Metrodome, Minneapolis, MN. CONTACT: SAR Coordinator or Secretary, Program in Human Sexuality, FMC Building, 1300 South 2nd Street, Minneapolis, MN 55454.

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Spring Conference Schedule

1992

February 7	Domestic Violence, A Focus on Adult Women, St. Paul
February 14	Burn Care Today, St. Paul
March 12-13	Family Medicine Update, St. Paul
March 20	Occupational Medicine Update, St. Paul
March 26-27	Critical Care: Practical Approaches & Case Discussions, St. Paul
April 2-3	OB/Gyn Update, St. Paul
April 3	ENT Update for Primary Care Physicians, St. Paul

Information and Registration

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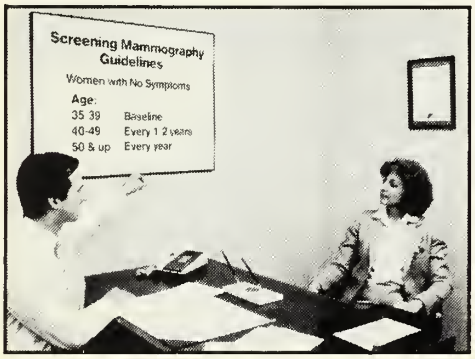

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Internist to join a progressive 13-physician group practice. Rural college town 30 miles from St. Paul, Minnesota. New clinic and constructing new hospital. Contact: Robert B. Johnson, M.D., River Falls, WI 54022; 715/425-6701. (*9/91-R)

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Mankato Clinic, Ltd. is seeking BC/BE physicians in the following specialties: dermatology, gastroenterology, invasive cardiology, occupational medicine, oncology/hematology, ophthalmology, pulmonary medicine, family practice, and general internal medicine. The Mankato Clinic is a 50-physician multispecialty group practice in south-central Minnesota with a trade-area population of +250,000. Guaranteed salary first year, incentive thereafter with full range of benefits and liberal time off. For more information call: Roger Greenwald, Administrator, or Dr. B. C. McGregor, 507/625-1811 or 800/657-6944, or write: 501 Holly Lane, Mankato, MN 56001. (12/91-R)

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Forest Lake Doctor's Clinic is seeking a BC/BE family physician, pediatrician, ob/gyn, and internist to join 10-physician multispecialty group. Located 25 miles north of Minneapolis-St. Paul in progressive community with excellent schools, many beautiful lakes, recreational activities, golf, fishing, boating, skiing. Local hospital directly across street. Contact: Dr. Harvey J. Frank or Dr. Doug Sill, 121 SE 11th Avenue, Forest Lake, MN 55025; 612/464-7100. (4/90-R)

Olmsted Medical Group is currently seeking BC/BE physicians in the following specialties: general surgery, family practice, emergency medicine, pediatrics, and ob/gyn. Excellent opportunity for well-trained physicians to join a 50+ physician multispecialty group in an established, progressive practice. In addition to the recently expanded main office in Rochester, Minnesota, the group operates eight

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Lake City, Minnesota: Family physician BC/BE needed to join three other FPs in progressive, growing practice on Lake Pepin/Mississippi River in southeastern Minnesota. Excellent first-year salary/benefits in a scenic community with multiple recreational opportunities. Contact: D.D. Pflaum, M.D., 303 South Washington, Lake City, MN; 612/345-3318. (8/90-R)

MDsearch assists medical groups and hospitals in their recruiting efforts. For confidential information on opportunities in the Upper Midwest, send CV and/or call collect: Mary Jo Cordes, MDsearch, PO Box 21507, St. Paul, MN 55121; 612/454-7291. (12/91-R)

Wisconsin: 120-physician multispecialty clinic in the Fox River Valley of northeastern Wisconsin desires two BC/BE pediatricians to join department of 15 BC/BE pediatricians. Excellent compensation and benefits package, leading to shareholder status after two years. The community offers a superb recreational, cultural, and family environment in which to practice. For information please call or write: Howard Kidd, M.D., La Salle Clinic, 411 Lincoln Street, Neenah, WI 54956; 414/727-4276. (3/91-R)

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Physician: BC in emergency medicine, experienced in FP (no ob), and licensed in Minnesota, South Dakota, Wisconsin, available for locum tenens coverage. Reply to: Minnesota Medicine (850), 2221 University Avenue SE, Suite 400, Minneapolis, MN 55414. (5/91-R)

Internal Medicine, Pediatrics, and Dermatology practice opportunities available at the Faribault Clinic. The Faribault Clinic is a multispecialty group practice of 19 physicians. Faribault is located 50 miles south of Minneapolis on I-35. For more information contact: Ray W. Wood, M.D., or Ken Smith, Administrator, 924 NE First Street, Faribault, MN 55021; 507/334-3921. (4/90-R)

Stillwater: Multispecialty group with emphasis on primary care seeking BC/BE family physician and internist. Scenic location with excellent school system, supportive medical community with strong local hospital, competitive salary and benefits. Send CV to: Jon Petersen, St. Croix Valley Clinic, 921 Greeley, Stillwater, MN 55082; 612/439-2215. (6/91-R)

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benefits. Practice high-quality internal medicine in a most desirable location. Please contact: Stuart R. Lancer, M.D., M.B.A., Medical Director, Group Health Cooperative, P.O. Box 3217, Eau Claire, WI 54702-3217; 715/836-8552. *4-12/91

Lake Region Clinic, Brainerd, Minnesota: We are currently recruiting two family practice physicians to join four family practice physicians. Able to do the full scope of family practice including ICU (ob optional). Good cooperative working relationship with specialists in orthopedic surgery, urology, ENT, OBG, general surgery, internal medicine, ophthalmology, and psychiatry. Modern, well-equipped 160-bed hospital within two blocks. We offer first-year guarantee plus incentive, vacation time, CME study time, insurance, and more. Send CV or contact Darral Mischke, Administrator, or David Boran, M.D., at 218/829-3568. (12/91-R)

Family Practice: Physicians seeking a BC/BE family practice physician for the Norway, Michigan, service area. The physician would have the option of joining one of the existing practices and/or setting up his/her own practice. Anderson Memorial Hospital is a part of Dickinson County Hospitals and has a service-area population of over 45,000. Contact: Dr. Paul Hayes' office, 906/563-9255, or Dr. William Gladstone's home, 906/563-8743. Anderson Memorial Hospital, Main Street, Norway, MI 49870; 906/563-9243. *3-1/92

Pediatrics: Marshfield Clinic, a 400-physician multispecialty group practice, is seeking BC/BE pediatricians to join expanding regional centers in Chippewa Falls and Rice Lake, Wisconsin. These are beautiful, wooded Wisconsin areas with an abundance of lakes, rivers, and streams. Both communities offer a thriving economic environment, clean air, low crime, excellent schools and exceptional four-season recreation. Chippewa Falls is a community of 22,000 with 8,000 to 10,000 permanent residents living around adjacent Lake Wissota. It borders Eau Claire, Wisconsin, a city of nearly 80,000 that includes a major campus of the University of Wisconsin. Rice Lake is a lakeside community of 8,500 people. In addition to excellent primary and secondary schools, both public and parochial, educational opportunities include a UW Center and VTAE campus. Both opportunities have beautiful new clinic buildings situated adjacent to comparably modern and progressive hospitals. In addition to their many local resources, the nearby proximity of major metropolitan areas (i.e., 1 1/2 hours from Minneapolis/St. Paul) provides a catalog of readily accessible cultural activities, shopping, fine dining, and professional spectator sports. Each opportunity has its own special qualities with more attractive features relative to individual needs and preferences. Emphasis on lifestyle and quality practice is combined with a guaranteed salary and outstanding fringe benefits package. If this combination of professional excellence and lifestyle made possible through the backup resources of a leading medical center in conjunction with the uncommon, varied beauty of Wisconsin's land and lakes sounds interesting to you, please send CV and references to: David L. Draves, Director, Regional Development, 1000 North Oak Avenue, Marshfield, WI 54449; or call 800/826-2345, ext. 5376. *4-1/92

Wisconsin: Fourth BC/BE obstetrician/gynecologist needed to join stable, progressive, primary-care-based HMO/group practice in university town of 60,000 near Minneapolis/St. Paul. Excellent quality of life and outstanding recreational area. Competitive salary and fringe benefits. Contact: Stuart R. Lancer, M.D., M.B.A., Medical Director, Group Health Cooperative, PO Box 3217, Eau Claire, WI 54702-3217; 715/836-8552. *3-12/91

Wisconsin—Family Practitioner Needed by progressive and growing group practice in west-central Wisconsin city of 60,000. Ninety miles from Minneapolis/St. Paul. Primarily prepaid practice with large component FFS. Highly competitive salary with excellent fringe benefits. Practice high-quality care in a good recreational area. Send CV to: Stuart R. Lancer, M.D., M.B.A., PO Box 3217, Eau Claire, WI 54702-3217; 715/836-8552. *3-12/91

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Eugene, Oregon. BC/BE Internist to join well-established, 44-physician, primary-care group. Excellent schools. Abundant cultural and recreational opportunities. Near Cascade Mountains and coast. Home of University of Oregon. Please send CV to David Strutin, M.D., Oregon Medical Group, 495 Oakway Road, Eugene, Oregon, 97401; or call 503/342-2134. 3-1/92

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Emergency Physician: Are you looking for an occasional extra shift, or perhaps more exposure to a busy, trauma-receiving, emergency department? North Memorial Emergency Physicians are seeking BC, EM residency-trained individuals for part-time employment as the third or fourth physician on duty. Flexible hours/competitive pay. Contact: Bruce Adams, M.D., or Ford Erickson, M.D., North Memorial Medical Center, Robbinsdale, MN 55422; 612/520-5536. (*11/91-R)

Family Physician/Internist: Regional treatment center interested in two full-time, BC/BE family practitioners/internists. Forty hours/week. Competitive salary and benefits. Live in the exciting Brainerd lakes area. Send CV to: Chief of Medicine, Brainerd Regional Human Services Center, 1777 Highway 18 East, Brainerd, MN 56401. 6-4/92

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Family Practice: BC/BE family practitioner to join 21-person family practice department that is part of a 45-person multispecialty group located in the northern suburbs of Minneapolis. Practice opportunities available in rural and suburban locations. Highly competitive first-year guaranteed salary, production-based compensation, exceptional benefits package. Respond with CV to: Penny Magnuson, M.D., 9055 Springbrook Drive, Coon Rapids, MN 55433; 612/780-9155. *1-12/91

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General Surgeon: Join established lucrative practice serving two excellent hospitals and two-county population of 35,000. Peaceful, scenic city of 8,500. Excellent housing, school system, shopping, and progressive medical staff. Send CV to: Jim Schneckloth, 4 Sunset Place, Charles City, IA 50616. 3-2/92

Family Practice: Fine opportunity for growing and lucrative group practice. Progressive medical staff serves 61-bed hospital and county population of 19,000. Peaceful, scenic city of 8,500 with excellent housing, schools, shopping, hunting, sports, and wide range of community and hospital/health services. Send CV to: Jim Schneckloth, 4 Sunset Place, Charles City, IA 50616. 3-2/92

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BC/BE Pediatrician to join group of six within 70-physician multispecialty clinic. This growing and diverse practice offers a competitive salary plus incentive, insurance, benefits, excellent hospitals, schools, colleges, and cultural and recreational activities in town of 60,000. Practice serves a tri-state area of 225,000 population. Send CV to: Denis P. Albright, Director of Physician Recruiting, Medical Associates Clinic, P.C., 1000 Langworthy, Dubuque, IA 52001; or call 319/589-9981. *3-2/92

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